THE

AMERICAN JOURNAL

OF THE

MEDICAL SCIENCES.

No. XXII.—April, 1846. 18

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TO READERS AND CORRESPONDENTS.

THE communications of Drs. Boling, Mendenhall, Savage, Metcalfe, and of Prof. Meigs and Dr. Pfeiffer shall appear in our next.

The paper of Dr. Blackman was crowded out of our present No.; it shall, however, have a place in the next.

Other communications are under consideration, and the authors shall hear from us by letter, in relation to them, in a short time.

We have been unable to notice various works which have been sent to us, in consequence of want of space, though we have largely exceeded our limits. They shall receive due attention.

The following works have been received:—

Lectures on the Operations of Surgery, and on Diseases and Accidents requiring Operations. By ROBERT LISTON, Esq., F. R. S., Senior Surgeon to the University College Hospital, and Professor of Clinical Surgery in the College. With numerous additions, by THOMAS D. MUTTER, M. D., Prof. Surgery in Jeff. Med. College, &c. &c. &c. &c. Philadelphia, Lea & Blanchard, 1846. (From the publishers.)

A Manual of the Diseases of the Eye; or, Treatise on Ophthalmology. By S. LITTELL, Jr., M. D., one of the Surgeons of the Wills' Hospital, Fellow of the College of Physicians of Philada. Second Edition, revised and enlarged. Philadelphia, 1846. (From the author.)

General Therapeutics and Materia Medica. With 120 illustrations. Adapted for a medical text book. By ROBLEY DUNGLISON, M. D., Prof. Inst. of Med. in Jeff. Med. College. Third edition, revised and improved. In 2 vols. Philadelphia, Lea & Blanchard, 1846. (From the publishers.)

Phrenology Examined. By P. FLOURENS, Member of the French Academy, Perpetual Secretary of the Royal Academy of Sciences, &c. &c. Translated from the second edition of 1845, by CHARLES DE LUCENA MEIGS, M. D., Memb. Am. Philos. Soc. Philadelphia, Hogan & Thompson, 1846. (From the translator.)

Physical Education, and the Preservation of Health. By JOHN C. WARREN, M. D., Prof. Anat. and Surg. in Harvard University. Boston, William D. Ticknor & Co., 1846. (From the author.)

Fragments of Medical Science and Art. An Address, delivered before the Boylston Medical Society of Harvard University. By HENRY JACOB BIGELOW, M. D., President of the Society. Published by the Society. Boston, Wm. D. Ticknor & Co., 1846. (From the author.)

A Manual of Chemistry. By RICHARD D. HOBLYN, A. M., Oxon., &c. New York, Saml. S. & Wm. Wood, 1846. (From the publishers.)

New Elements of Operative Surgery. By ALF. A. L. M. VELPEAU, Prof. of Surgical Clinique of the Faculty of Medicine of Paris, &c. &c. &c., carefully revised, entirely remodeled, and augmented with a treatise on Minor Surgery. Illustrated by over 300 engravings, incorporated in the text, accompanied with an atlas in quarto, of twenty-two plates, representing the principal operative processes, surgical instruments, &c. First American, from the last Paris edition. Translated by P. S. TOWNSEND, M. D., late Physician to the Seamen's Retreat, Staten Island, New York. Augmented by the addition of several hundred pages of entirely new matter, comprising all the latest improvements and discoveries in Surgery in America and Europe, up to the present time. Under the supervision of, and with notes and observations, by VALENTINE MOTT, M. D., Prof. of the Operations of Surgery, with Surgical and Pathological Anatomy in the University of New York. In three volumes. Vol. II. New York, J. & H. G. Langley, 1846. (From the publishers.)

Outlines of the Nerves, with short descriptions. Designed for the use of Medical Students. By JOHN NEILL, M. D., Demonstrator of Anatomy in the University of Pennsylvania, Physician to Wills' Hospital, &c. Philada.: Ed. Barrington and Geo. D. Haswell, 1845. (From the author.)

Examinations in Anatomy, Physiology, Practice of Physic, Surgery, Chemistry, Materia Medica, and Pharmacy, for the use of Students. By ROBERT HOOPER, M. D. Third American, from the last London edition, revised and enlarged. New York, J. & H. G. Langley, 1846. (From the publishers.)

Homœopathy, Allopathy, and Young Physic. By JOHN FORBES, M. D., F. R. S., &c. Philada., Lindsay & Blakiston, 1846. (From the publishers.)

An Essay on the Use of Narcotics, and other remedial agents calculated to produce sleep in the treatment of insanity. For which the author obtained the Lord Chancellor's Prize in Ireland, awarded by the President and Fellows of King and Queen's College of Physicians. By JOSEPH WILLIAMS, M. D. London, 1845. (From the author.)

The Diagnosis, Pathology, and Treatment of the Diseases of the Chest. By W. W. GERHARD, M. D., Lecturer on Clinical Medicine to the University of Pennsylvania, one of the Physicians to the Pennsylvania Hospital, &c. Second edition, revised and enlarged. Philada., Ed. Barrington & Geo. D. Haswell, 1846. (From the publishers.)

Clinical Lectures on Surgery. Delivered at St. George's Hospital. By SIR BENJAMIN BRODIE, Bart., V. P. R. S., &c. &c. Philada., Lea & Blanchard, 1846.

A Compendium of Lectures on the Theory and Practice of Medicine, delivered by Prof. CHAPMAN, in the University of Pennsylvania. Prepared with permission, from Dr. Chapman's manuscripts, and published with his approbation. By N. D. BENEDICT, M. D., F. C. P. P., Phys. to the Lying-in department of the Philadelphia Hospital. Philada., Lea & Blanchard, 1846. (From the publishers.)

Report of Special Committee of the House of Assembly of the State of New York, on the present Quarantine Laws, 1846. Albany, 1846. (From Dr. A. F. Vaché.)

A Dictionary of Practical Medicine, comprising general Pathology, the Nature and Treatment of Diseases, Morbid Structures, &c. Edited, with additions, by CHARLES A. LEE, M. D. Part XII. New York, Harper & Brothers, 1846.

The Natural History and Diseases of the Human Teeth. By JOSEPH FOX, M. R. C. S. L., &c. &c .First American, from the third London edition. Remodeled, with an Introduction, and numerous additions., by CHAPIN A. HARRIS, M. D., D. D. S., Prof. of Pract. Dentistry and Dental Pathology, in the Baltimore College of Dental Surgery, &c. &c. Illustrated with thirty plates. Philadelphia, Ed. Barrington and Geo. D. Haswell, 1846. (From the publishers.)

Elements of Surgery. By ROBERT LISTON, Surgeon to the North London Hospital, &c. &c. Fourth American, from the last London edition, with copious notes and additions, by SAMUEL D. GROSS, M. D., Prof. of Surgery in the Medical Institute of Louisville, &c. Illustrated with numerous engravings. Philada., Ed. Barrington and Geo. D. Haswell, 1846. (From the publishers.)

Seventh Annual Report of the Directors and Superintendent of the Ohio Lunatic Asylum, to the forty-fourth General Assembly for the year 1845. Columbus, 1846. (From Dr. Awl.)

Report of the Commissioners of the State Lunatic Asylum, or Indiana Hospital for the Insane, to the General Assembly, Dec., 1845. Indianapolis, 1845. (From Dr. Jno. Evans.)

Annual Reports of the Keepers, Clerk, Physicians and Visitors of the Penitentiary, Frankfort, Kentucky, 1846. (From Drs. L. and W. C. Sneed, Physicians to the Institution.)

Seventeenth Annual Report of the Inspectors of the Eastern State Penitentiary of Pennsylvania. Philadelphia, 1846. (From Dr. Given.)

The Select Medical Library. Tamplin on Deformities. Philadelphia, Jan. 1846. (In exchange.)

State of the New York Hospital and Bloomingdale Asylum, for the year 1845. New York, 1846.

Lecture on Medical Obedience, Introductory to the Course of Theory and Practice of Medicine, in the Medical Department of Pennsylvania College. Phila-

delphia, for the Session of 1845–6. By WILLIAM DARRACH, M. D. Published by the members of the class. Philada., 1845. (From the author.)

Anniversary Address to the New York Medical and Surgical Society. By F. CAMPBELL STEWART, M. D. Delivered Jan. 3, 1846. New York, 1846. (From the author.)

Catalogue of the Trustees, Officers and Students of the University of Pennsylvania, Session 1845–46. Philada., 1846.

Catalogue of the Medical Department of Transylvania University, for the Session of 1845–6, with the circular for the coming Session. Lexington, Ky., 1846.

An Address to the class of Graduates of the Albany Medical College, delivered at the commencement, Jan. 27th, 1846. By D. D. BARNARD, President of the Trustees. Albany, 1846. (From Prof. Beck.)

Fourth Annual Report to the Legislature, relating to the Registry and Returns of Births, Marriages and Deaths in Massachusetts. For the year ending April 30th, 1845. By JOHN G. PALFREY, Sec'y of the Commonwealth. Boston, 1845. (From Lemuel Shattuck, Esq.)

Third Annual Report of the Managers of the State Lunatic Asylum, [New York,] made to the Legislature, Jan. 23d, 1846. Albany, 1846. (From Dr. Brigham.)

Twenty-fifth Annual Report of the Bloomingdale Asylum for the Insane. For the year 1845. (From Dr. P. Earle.)

Report of the Pennsylvania Hospital for the Insane. For the year 1845. By THOMAS S. KIRKBRIDE, M. D., Physician to the Institution. Philada., 1846. (From the author.)

Annual Report of the Directors and Physicians of the Kentucky Lunatic Asylum to the Legislature. December Session, 1845. Frankfort, Ky., 1846.

Journal de Medecine. Par M. Trousseau, Dec. 1845, Jan., Feb., 1846. (In exchange.)

Journal de Chirurgie. Par M. Malgaigne. Jan. 1846. (In exchange.)

Medico-Chirurgical Transactions, published by the Royal Medico-Chirurgical Society of London. Second Series, vol. the Tenth. London, 1845. (From the Society.)

Monthly Journal of Medical Science. Edited by JOHN ROSE CORMACK, M. D., Nov., Dec., 1845. Jan., 1846. (In exchange.)

British and Foreign Medical Review. Edited by JOHN FORBES, M. D. Jan., 1846. (In exchange.)

The Medico-Chirurgical Review, Jan., 1846. (In exchange.)

The Edinburgh Medical and Surgical Journal, Jan., 1846. (In exchange.)

The Provincial Medical Journal, Dec., 1845. Jan., Feb., 1846. (In exchange.)

The London Medical Gazette, Dec., 1845. Jan., Feb., 1846. (In exchange.)

The Northern Journal of Medicine, Dec., 1845. Jan., 1846. (In exchange.)

The Dublin Medical Press, Dec., 1845. Jan., Feb., 1846. (In exchange.)

The Medical Times, Dec., 1845. Jan., Feb., 1846. (In exchange.)

The British American Journal of Medical and Physical Sciences, Jan., Feb., 1846. (In exchange.)

The Half-yearly Abstract of the Medical Sciences: being a practical and analytical digest of the contents of the principal British and Continental Medical Works published in the preceding six months. Together with a series of Critical Reports on the Progress of Medicine and Collateral Sciences during the same period. Edited by W. H. RANKING, M. D., Cantab., Phys. to the Suffolk General Hospital. Part II. Vol. I. July—Dec., 1845. London, 1846. (In exchange.)

Same. New York, J. & H. G. Langley.

The Retrospect of Practical Medicine and Surgery, being a half-yearly Journal, containing a Retrospective View of every Discovery and Practical Improvement in the Medical Sciences. Edited by W. BRAITHWAITE, Surgeon to the Leeds General Eye and Ear Infirmary, &c. &c. Vol. XII., July—Dec., 1845. London, 1846. (In exchange.)

The American Journal of Insanity. Edited by the Officers of the New York State Asylum, Utica. Jan., 1846. (In exchange.)

The Buffalo Medical Journal. Edited by AUSTIN FLINT, M. D. Jan., Feb., March, 1846. (In exchange.)

Lecture on Medical Obedience, Introductory to the Course of Theory and Practice of Medicine, in the Medical Department of Pennsylvania College. Phila-

The New York Journal of Medicine and the Collateral Sciences. Edited by CHARLES A. LEE, M. D., Prof. of Gen. Pathol. and Mat. Med. in Geneva Med. College. Jan., March, 1846. (In exchange.)

The Southern Journal of Medicine and Pharmacy. Edited by J. L. SMITH, M. D., and S. D. SINKLER, M. D. Jan., March, 1846. (In exchange.)

The American Journal of Pharmacy. Published by authority of the Philadelphia College of Pharmacy. Jan., 1846. (In exchange.)

The St. Louis Medical and Surgical Journal. Jan., Feb., 1846. (In exchange.)

The New York Medical and Surgical Reporter. Jan., Feb., March, 1846. (In exchange.)

The Bulletin of Medical Science. Jan., Feb., 1846. (In exchange.)

The American Journal and Library of Dental Science. March, 1846. (In exchange.)

The Boston Medical and Surgical Journal. Jan., Feb., March, 1846. (In exchange.)

The Western Lancet. Nov., 1845. Jan., Feb., 1846. (In exchange.)

Southern Medical and Surgical Journal. Jan., Feb., March, 1846. (In exchange.)

The American Journal of Science and the Arts. Jan., and March, 1846. (In exchange.)

The Illinois Medical and Surgical Journal. Dec., 1845. Jan., Feb., 1846. (In exchange.)

The New Orleans Medical and Surgical Journal. Jan., March, 1846. (In exchange.)

The Pennsylvania Journal of Prison Discipline and Philanthropy. Jan., 1846. (In exchange.)

The Medical Examiner. Jan., Feb., March, 1846. (In exchange.)

The Western Journal of Medicine and Surgery. Jan., Feb., 1846. (In exchange.)

Stockton's Dental Intelligencer. Jan., Feb., 1846.

Communications intended for publication, and Books for Review, should be sent, *free of expense*, directed to ISAAC HAYS, M. D., Editor of the Amer. Journ. of Med. Sci., care of Messrs. Lea & Blanchard, Philadelphia. Parcels directed as above and sent (carriage paid) under cover, to John Miller, Henrietta Street, Covent Garden, *London;* or to Wiley & Putnam, *New York;* or W. D. Ticknor, *Boston;* or M. Hector Bossange, Lib. quai Voltaire, No. 11, *Paris*, will reach us safely. We particularly request the attention of our foreign correspondents to the above, as we are often subjected to unnecessary expense for postage and carriage.

All remittances of money, and letters on the *business* of the Journal, should be addressed *exclusively* to the publishers, Messrs. Lea & Blanchard.

☞ The advertisement-sheet belongs to the business department of the Journal, and all communications for it should be made to the publishers, under whose exclusive control it is.

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THE

AMERICAN JOURNAL

OF THE

MEDICAL SCIENCES

FOR APRIL, 1846.

ART. I.—*Ligature of both Carotid Arteries for a remarkable Erectile Tumour of the Mouth, Face, and Neck.* By J. MASON WARREN, M. D., one of the Surgeons to the Massachusetts General Hospital. [With two plates.]

ALBERT TABUR, from Maine, 23 years old, consulted me on October 1st, 1845, for an enormous tumour of the lower lip and tongue, which had supervened on a mark occupying a good part of the face, and neck, and now presented the following appearances.

The head of the patient was larger than common: the left side of the face was almost wholly occupied by a discoloration, which was originally less extensive and lighter coloured, but had now attained the extent and appearance above mentioned. The right side presented a discoloration about half the extent of the left. The lower lip was much enlarged, everted, and gave three aspects: externally, the thick tumefied lip; internally, a fungoid tumour, covered by red granulations distended by blood, as if ready to break through; the whole surmounted by an irregular ulceration with thickened edges and a hardened base. The red granular appearance extended underneath the tongue through the ranular space to the inferior surface itself, the left half of which was enlarged to double its natural size and partially protruded between the teeth; its upper part being the seat of five or six small ulcerations. The discoloration of the face also extended on the outside of the lip downwards over the chin and neck, covering a space of seven or eight inches in diameter, as represented in Plate I; the whole, especially that on the face, being rather more full and distended with blood than natural.

The history of the case was this. The mark, as above stated, was congenital. About four years since the lip and tongue began gradually to swell, and the former very shortly ulcerated. The ulceration has occasionally healed since that time, until the last year, when it has been permanently enlarging. On making pressure on the lip the blood can be gradually expelled, returning again immediately on the pressure being withdrawn. The same is the case with the tongue. Since the erectile tissue has been developed in the lip the discoloration of the face has become more marked, has extended, and is evidently partaking of the character of the erectile tumour in its neighbourhood.

This case was evidently a very critical one, and the two most prominent dangers which appeared to threaten him were these: First, a cancerous degeneration of the ulcerated lip; and, secondly, alarming hemorrhage, which was likely sooner or later to take place, and which must, in all probability, prove rapidly fatal.

The following is the course I proposed to him, in consultation with Dr. John C. Warren: 1st, to have the left carotid artery tied; 2d, after a considerable interval of time to tie the right carotid; 3d, to attack whatever portion of the tumour remained by means calculated to produce contraction of the vessels and obliteration of the erectile tissue.

To this course, after weighing well all the dangers connected with it, the patient agreed, and on Oct. 5th I tied the left carotid artery. He recovered from the operation, and was out in about ten days. At that time the face had become more pale, the erectile tissue and the large tumour of the lip had very much diminished in size, and the painful ulceration which surmounted it was rapidly healing. The patient seemed to be in perfect health. He was advised to go home, remain three or four weeks, and then return to have the other carotid tied: in the meanwhile to apply a strong solution of the sulphate of zinc, by compresses, to the inside of the lower lip.

Nov. 7th.—When the patient returned from the country, it appeared that the tumour of the lip was diminished one half. The fullness of the face and neck was less; the discoloured parts were much paler than when he left town. The size of the tongue was less, and the ulcerated spots on it had quite healed. His health remained good. It was determined, therefore, to proceed at once to the ligature of the carotid of the right side.

The day previous to the operation, I made a compression on the artery for about five minutes without any obvious inconvenience to the patient, and with much encouragement to myself as to the event of the next operation.

The patient being placed in a sitting posture, the carotid artery was laid bare, and a ligature passed under it. It was dilated about one-third more than its natural size. He was then placed on his bed, with the head slightly elevated; the state of the pulse was now explored, and found

to be 80 in the minute. The ligature was drawn tight. At first he exhibited no change, but shortly after the pulse appeared to labour, and became slightly irregular; the only symptom noticed in the patient was that he became drowsy. After waiting about fifteen minutes the second knot was tied, and the wound dressed.

No inconvenience was experienced from this operation, farther than a slight faintness during the afternoon on attempting to raise his head. He was directed to keep perfectly quiet, and to maintain strictly the horizontal position.

On the third day there was a slight soreness about the larynx, which lasted three days. He is now, Nov. 19th, at the end of ten days, in good health, and able to go down stairs. The face is much paler than before the last operation, and the morbid appearances are diminishing.

Nov. 26th.—The ulceration of the lip is quite healed; but the lip itself is still thick and somewhat everted by the erectile tissue, which enters into its whole substance.

On examination of the part it was concluded that although this swelling was gradually diminishing, yet it would not wholly disappear without a further operation; and that, as the patient lived at a considerable distance, the disease, if disposed to return, might get beyond control before the proper remedies could be applied to check its increase. I therefore determined to remove the diseased portion of the lower lip by a V-like incision. Previously to this, and in order to avoid hemorrhage, I performed the following operations.

A cataract needle was plunged into the vascular texture on the left side, and carried in different directions, so as to break up and destroy its organization. No hemorrhage followed this application. Three days afterwards a similar operation was repeated on the right side.

Nov. 29th.—A final operation was performed. A strong compression being exercised by means of two steel forceps prepared for the purpose, on each side of the lip, so as completely to interrupt the course of blood into it, a portion not less than two inches in length at its free edge was removed by a triangular incision. At first there was not the slightest hemorrhage, the two lips of the wound remaining perfectly dry; on the compression being removed, however, blood gradually oozed from the whole cut surface. This was easily checked and the edges of the wound approximated by a number of points of the interrupted suture, and a powerful compressing bandage applied.

For the first twenty-four hours he was carefully watched. Towards evening a coagulum was found projecting from the wound, which was removed. From this time there was no farther hemorrhage, or bad symptom, and the wound healed by the first intention.

The portion of lip removed presented a spongy tissue, like the body of

a leech, and gave a sensation in cutting like a bit of diseased lung,—parts of it were indurated from the previous subcutaneous incisions. The muscular tissue had almost completely disappeared.

Dec. 12*th.*—The patient returned home quite well. Previous to the last operation, and after the ligature of both carotids, he was present at a meeting of the Boston Society for Medical Improvement, and on the day he left town he was seen by various gentlemen of the profession.

At this period the drawing, Plate II, was made. As will be seen, the discoloration of the face had become much paler, and that of the neck and chest had almost wholly disappeared. The ear had lost its swollen and deep reddish colour, and had become of a natural size and of a pale aspect.

No pulsation could be discovered in either of the temporal arteries, or in fact, in any of the arteries of the head. In the neck, just above the clavicle, two large arteries nearly the size of the carotids, are seen pulsating powerfully under the skin, being in all probability the supra-scapular arteries greatly enlarged.

I have had a letter from this patient since his return home, and he is now, Feb. 1st, nearly four months after the first operation, in the enjoyment of perfect health, nor has he had the slightest indications of disturbance in the brain from this great interruption to its natural circulation.

Remarks.—It is now rather more than forty years since Sir Astley Cooper first applied a ligature to the carotid artery for aneurism, and the operation at that time was looked upon with great distrust from the fear of a fatal disturbance to the functions of the brain. It has since been frequently repeated, and with as good success as perhaps any of the greater operations in surgery.

It remained to be proved, whether both carotids could be safely tied without destruction to life. One case in this country, performed by Dr. Mussey, in 1827, and two or three abroad, go to prove the practicability and safety of this operation, if done with proper precautions. The great object appears to be, that sufficient time should elapse between the ligature of the carotids to allow the collateral vessels which supply the brain to be dilated, so as to carry the quantity of blood required for the performance of its functions.

In Dr. Mussey's case, the second ligature was applied at the end of twelve days, and without any uncommon symptoms on the part of the patient. Eight years afterwards he was well, although occasionally troubled with cerebral plethora.

Professor Kuhl, of Leipsic, tied the left carotid artery in a man 53 years old, for the cure of an extensive aneurismal disease of the scalp. This patient had convulsive motions and vomiting during the operation. A profuse hemorrhage from the tumour rendered it necessary to secure the right carotid artery on the 41st day. The patient recovered, but not until after

hemorrhages from the tumour, and suppuration, and considerable trouble in the cerebral functions. Two other cases have been given by the *London Medical Gazette*, as performed by Mr. Preston, of India, for some disease of the brain. In one case the second ligature being applied at the end of eleven weeks, and in the other at the end of four weeks. In these cases, although the condition of the patient was not improved by the operations, no severe symptoms on the part of the brain followed the obstruction of the blood through these vessels.

Other cases may be adduced, in which both carotid arteries have been obstructed by disease, such as aneurisms, or other tumours in their neighbourhood, without destruction of life. These show, that if the nature of the case forbids a resort to any of the other resources of surgery, this operation offers a reasonable chance of success and safety to the patient.

To the cases that are mentioned of partial obstruction of the vessels supplying the brain, the following very interesting one, in which all the large vessels going to that organ were cut off, is given by Dr. Davy.

"The subject of this case was an officer of high rank, about 55 years of age, who first began to suffer in health after an attack considered to be rheumatism, in 1831. In Sept., 1835, he was taken suddenly ill, with a tendency to syncope and vertigo, frequently returning; but after this his general health grew better; he experienced vertigo seldom, and syncope never. It was now observed, that he had no pulse at either wrist, or in the brachials. His disease was now clearly perceived to be aneurism of the arch of the aorta, with an obstructed state, it might be inferred, of the great vessels arising from it, for no pulse could be felt anywhere in the course of those vessels, in the neck, temples, axilla or wrist. This gentleman expired suddenly, while traveling, on Jan. 11th, 1837. Upon examination of the body, the aorta was found ruptured near its base, within the pericardium. The arch of the aorta was the seat of a large aneurism filled with coagulum. All the great vessels arising from the arch were completely closed up at their origins. The upper portion of the innominata was open; the right carotid and subclavian were also open, but rather diminished in size; the left carotid, subclavian and vertebral arteries, as far as they were examined, viz., to the extent of two inches, were impervious, being plugged up with lymph. The intercostal arteries were observed to be large."—*Lond. Med. Gaz.*

Having shown by facts the ground on which an operation of this kind is practicable and of a reasonable application, we are led to look at the propriety of adopting it in the present case.

It was evident, in the first place, that the patient's fate was inevitable either from cancerous degeneration or hemorrhage, or both combined, unless some sure and active means were adopted to arrest the disease. If the disease had been situated at a great distance from the vessels to be ligated, on the scalp, for instance, there would have been a question, as

will be shown by a case in the sequel, whether the supply of blood might not be kept up by a collateral supply through the vertebral arteries, by means of the ophthalmic. In the present case no danger of this kind was likely to give cause for immediate apprehension, and the active part of the disease might easily be extirpated before the anastomosing vessels from other quarters had begun to supply the tumour,—an opinion supported by the event.

The attempt to remove the lip without the ligature of the carotids, would probably have been attended with fatal hemorrhage, and even if the patient had escaped this accident, it would have left much diseased tissue remaining.

I have, however, twice attempted this operation in aneurism by anastomosis of the upper lip, where the disease has been partial. One of these cases is described in Dr. Warren's work on Tumours. The individual had a large red mark occupying nearly one-half of the left side of the face. During his childhood the upper lip on that side had commenced enlarging, until it had finally formed a permanent tumour, hanging down and obscuring the under lip; the gums had partaken of the disease; had become spongy, and with the rest of the diseased mass were bleeding on the least injury. About two-thirds of the upper lip was affected. I removed the whole of this by means of two incisions made in the adjoining sound textures. A triangular piece being thus included, a number of dilated vessels, which supplied the erectile tissue, were tied, and the only hemorrhage which was troublesome arose from the angle of the wound, where the disease had extended up into the nostrils. The inflammation which supervened on this operation was sufficient to obliterate the morbid tissue, which extended about the mouth and in its neighbourhood. Three months afterwards almost exactly a similar case of disease presented itself to me on the right side of the face, which was successfully treated in the same manner.

The following case, treated conjointly by Dr. John C. Warren and myself, confirms the remarks with regard to the ligature of the carotids, and also possesses many other points of interest.

Remarkable case of aneurism by anastomosis successfully treated by various operations.

The subject of this case is Asa Porter, an inhabitant of Nova Scotia, a healthy man, ætat. 33. He has on his forehead, principally below the roots of the hair, a little to the right of the median line, a soft, pulsating, irregular tumour about three inches in diameter, and from a half to three-fourths of an inch in thickness, which gives him a very formidable aspect.

This tumour is of a reddish colour, becoming redder and larger when the patient is excited, either by bodily exercise, or mental disturbance. It appears to consist of coils of vessels. It is easily compressed, and on

removal of the pressure immediately enlarges again. A number of pulsating blood-vessels are seen to enter it from different directions, principally on the right side. Of these may be distinguished, first, the temporal artery, which is in a very enlarged and tortuous state as far down as the lower part of the external ear; second, a branch of the temporo-frontal artery; third, the facial or angular artery from the internal commissure of the eyelids. On the left side are seen the left temporal artery, which is nearly as large as the right, and the left facial artery, which with its fellow, the artery of the right side, and its accompanying veins, forms a vascular tumour at the root of the nose. The veins themselves are of an enormous size, passing down from the tumour on either side of the nose, covering and partially obscuring the internal commissure of the eyelids. Besides these vessels, the whole scalp in the neighbourhood of the tumour seems alive with smaller arterial trunks, which are seen pulsating in every direction.

On compressing the temporal arteries, pulsation in the tumour is much weakened, and when, in addition to these, the facial arteries are also compressed, pulsation ceases, and the tumour becomes flaccid.

This tumour began sixteen years ago, without any known cause, by a small reddish spot on the right side of the forehead. It has gradually increased till lately, when this increase has been more rapid, especially within the last fortnight. There is an occasional throbbing of the carotid arteries, particularly that of the right side. The patient is also subject to distressing headaches, accompanied with increased action of the blood-vessels of the tumour, and of the head generally. This vibratory action of the arterial system of the head, neck and upper extremities is quite remarkable. He is incapacitated by it from all active exertions, and is therefore ready to undergo any operation that promises to relieve him.

The course of this tumour, if not arrested by surgical treatment, can be readily foreseen. The morbid action will gradually involve other vessels, until the whole scalp becomes filled with enlarged arteries. The vessels of the eyelids, of the face generally, and even of the interior of the mouth, are likely to be involved in this diseased action. The patient's condition will, in this way, become almost insupportable, and his life will, perhaps, be hazarded by the rupture of the tumour, which now seems almost ready to take place.

What means should be adopted to arrest its progress? Those which naturally present themselves in the first place, are of two descriptions:— First, ligature of the carotid artery. But in this case the ligature of a single carotid might not suffice to arrest the flow of blood into the tumour, since the vessels which supply it, although principally from the right, are partly from the left carotid. The ligature of both carotids would therefore be necessary; but the result was less likely to be successful than in the preceding case, on account of the greater distance of the tumour from the

arteries tied, and from the probability of its having other means of supply through the vertebral arteries, which inosculate freely with the branches of the internal carotid, the ophthalmic in this case being unusually dilated. The second mode of operating which suggests itself, is to expose the different vessels supplying the tumour, and pass a ligature upon them. The objection to this course is the length of such an operation as the exposure of so many vessels would require. Are there any other means that can be devised besides these two? The tumour is much too large to admit the safe and effectual application of caustic. It cannot be cut out without the most dangerous hemorrhage. It is too large and too much connected with the bone to admit the application of ligature *en masse* in its present state.

Oct. 31*st.* Having compressed, on the right side, the temporo-frontal and two temporo-parietal arteries, and on the left side the continuation of the temporal artery through the frontal region, and the temporo-parietal, the pulsations of the tumour appeared to be arrested, and its contents were readily expelled through the large veins, running into the facial vein. Observing this we determined to interrupt the circulation through the five vessels first mentioned, three on the right side, and two on the left. Instead of exposing and taking up these vessels in the usual way, Dr. J. C. Warren suggested that much time and loss of blood would be spared by passing needles under them. This was accordingly done, and the arteries were compressed by a ligature thrown over the needles in the form of a figure of 8. After this the pulsation of the tumour was much diminished. Venesection was then performed, and the patient placed in bed with his head elevated.

Nov. 6*th.* The needles were removed. Very slight soreness had been experienced from them. The tumour is diminishing in size; the vessels constituting it appear more flaccid and compressible. The soreness and all the uncomfortable sensations connected with it are lessened.

12*th.* The pulsations in the right and left temporal arteries still continuing, a needle was passed under each of these directly above the ear, after which the pulsation subsided, and also the general sense of beating about the head. The patient is much more comfortable.

21*st.* In consequence of a slight bleeding from the wound of a pin inserted on the 16th, we thought it best to obstruct the vessels on the anterior, and on the internal part of the tumour, and passed pins in each of these situations. There is now no pulsation in the tumour; the tenderness existing on the upper part before any operation has been increased. He had a chill from going into another room in the house; since that has had some fever.

22*d.* At this date there was a sudden rupture of the tumour attended with considerable hemorrhage. Being hastily called to the patient, I passed two large pins at right angles with each other under that part of the tumour from which the hemorrhage was taking place. A ligature

was carried around under the needles, and being tightened, the bleeding was effectually checked. It was to be feared, however, that as the pins ulcerated out, the hemorrhage would recur. There being a want of accommodation in his lodging, and in order that he might be more carefully watched in case of a second rupture of the tumour, he was advised to go to the hospital, where he came exclusively under the care of Dr. John C. Warren, to whom I am indebted for the remaining history of the case.

25*th*. The pulse is now natural, 75; the internal sensations are much improved; there is no vibratory motion of the arteries of the head, and none is discoverable in the tumour, though a pulsation still exists. A slight œdema extends from the tumour to the nose, and to the eyelids. Occasionally a drop of blood starts from the needle wounds. From time to time leeches have been applied with great relief.

30*th*. On this day a vessel was discovered running from the left temporo-frontal artery across the left eyebrow, communicating with a branch in the angle of the eye on the right side, thence running up along the left edge of the tumour, till it reached its superior posterior border. It did not produce a pulsation in this part of the tumour, but skirting along its edge for some distance, as it did, there was a strong probability of its sending vessels into the morbid mass, thus tending to keep up the morbid action. The needles, which were inserted by Dr. Mason Warren on the 22d inst., caused an inflammation and induration of the tissue in their neighbourhood, and were removed without hemorrhage.

As compression of the artery rising on the forehead, checked the specified pulsation, it was determined to tie up this vessel. A needle was accordingly passed under it on Dec. 1st. Before placing the ligature, the vessel was compressed on the needle, without interrupting the pulsation along the edge of the tumour. Another needle was therefore passed under that part of the artery, where it penetrated at the superior internal angle of the tumour, embracing over the needle a vascular substance at least half an inch wide. A ligature passed in the figure of 8 over this needle, suspended all pulsation. The patient had some pain, which lasted a couple of hours, after which he became quiet, and suffered no longer.

Dec. 3*d*. Two needles have now separated from the substance of the tumour without hemorrhage. Besides the needle passed on Dec. 1st, there still remains one needle at the lower part of the tumour, which was passed under an artery from the right temporo-frontal. The tumour, which has been hard from inflammation is now softened; its heat, except near the needle passed the last time, has subsided. There is now no throbbing in any of the arteries about the head: the carotid beats naturally. The patient is tranquil, feels well, and sits up, which he could not do for some time on account of the throbbing in the head produced by any motion. He has a good appetite. His food is restricted, however, to half a pound of solid farinaceous matter per day, and about a pint and a half of liquid.

6th. Although all pulsations are at an end, the tumour still exists but in a diminished state. Dr. Warren thought that, if left to itself, it would in all probability disappear without further applications; but, as the patient lived at a great distance, it seemed to be a duty to see that the tumour was certainly and perfectly eradicated before he went home to Nova Scotia. The best mode of accomplishing this would be by the application of caustic, which, perhaps, might be resorted to now that the great vessels were cut off, without danger of hemorrhage. This day, therefore, the use of caustic was commenced by the application of caustic potash, in a solid form, to the wound left by the separation of one of the needles. This wound was about one inch long and two lines wide. A little blood followed the application, which might have arisen from the pressure of the caustic, and therefore a portion of the same substance, in amount eight grains, was applied in powder.

16th. The caustic has been applied three or four times. Twice a slight hemorrhage has occurred, requiring an intermission in its use. A pulsatory movement having reappeared in the relics of the tumour, the application of ice two or three times a day was directed, to be continued as long as the patient could bear it. To-day the caustic was reapplied to the ulcerated surface, which is about an inch long and half an inch wide. The tumour is sensibly diminishing in size.

It will be unnecessary to proceed with all the subsequent details of this case. It is sufficient to state that the different portions of the diseased mass which remained were successively attacked with caustic potash, and with the occasional application of croton oil. Any small arteries, which were discovered running into the tumour, were treated, as in the commencement of the case, by the needles.

On April 5th an operation was performed to excise a portion of the erectile tissue, which existed at the upper part of the wound, when a large vessel was opened and required a ligature.

May 20th.—After the wound from the incision and caustic was nearly healed, a fullness was perceived at its lower angle, immediately above the supra-orbitar foramen. A triangular piece of the suspicious part was therefore cut out and the supra-orbitar artery tied. The whole wound after this last operation was nearly the size of a dollar. Strips of adhesive plaster were applied to approximate its edges. The wound came together with great rapidity. In a fortnight after the last incision it was healed with a lunated cicatrix, and the parts appeared perfectly sound. The patient is in excellent health, and on this day, May 20th, was discharged to return home, promising to visit us occasionally when he came to Boston.

Remarks.—In considering this case the first circumstance which presents itself is its protracted and complicated treatment. The necessity of this arose from the obstinate character of the affection. The applications first made were insufficient, and additional remedies were required under

the various appearances which occurred. Four different measures were successively adopted.

1. The large vessels were interrupted by ligatures applied in a peculiar way, *i. e.*, by needles passed under the arteries, and compression made on them by a thread in the form of a figure of 8.

2. The ligatures being insufficient to repress the action of the smaller vessels, caustic applications were resorted to for the purpose of destroying the morbid texture, and in part obliterating it by the inflammation produced by the action of the caustic. To this end a very free application was made of caustic potash, and repeated between twenty and thirty times.

3. Excision was performed of the remains of the vascular texture, after the arteries supplying it had been so far obliterated as to remove the apprehension of hemorrhage.

4. Compression by adhesive plaster and a bandage had a sensible influence in finishing the cure.

The general treatment gave important aid to the local applications. The patient was kept very still, and for the greater part of the time in bed, with the head much elevated. His food was restricted to the smallest quantity, so that he was reduced for a time to a state of total prostration of the muscular power. During most of the treatment, if a small addition was made to his food, its bad effect was generally seen in the production of arterial vibrations and the recurrence of headache. Abstraction of blood, and the use of purgatives were resorted to when necessary.

It is worthy of remark, that while erysipelas prevailed all around this patient, he was never affected by it in the slightest degree during exposure of at least three months.

In conclusion, it may be said, that this affection could only have been destroyed by a resolute and active perseverance in the various remedies, continued through all the turnings of the disease.

Boston, *Feb.* 1, 1846.

Art. II.—*Observations on Remittent Fever, as it occurs in the Southern parts of Alabama.* By Wm. M. Boling, M. D., of Montgomery, Alabama.

The exact combination of circumstances under which that mysterious agent of disease, malaria, is generated, remains yet to be satisfactorily explained,—as well as the chemical and physical properties belonging to it. We find at times all the circumstances in existence, so far as we are capable of understanding or appreciating them, which on a previous occasion had been supposed to cause its development, without the presence

of malarious disease; and again, we find such diseases prevailing to a considerable extent, when of the generally recognized causes of malaria, but few are present, or, if all, their existence in but a feeble degree. Heat, moisture, and the decay and decomposition of rich and luxuriant vegetation, are the three principal causes to which its production is attributed,—and certainly it gives manifestations of its presence under the existence of this combination more frequently than under any other. There are exceptions, however; and even throwing these exceptions out of the question altogether, the quantity and degree of concentration of the poison generated, are not always in proportion to the degree in which the combination has existed. The want of certainty in our knowledge of the circumstances connected with its production, has led some to deny its existence altogether. It is known, however, by its effects, which are sufficiently striking and peculiar to produce confirmation in the minds of most practical men who have lived in tropical regions.

The same uncertainty exists as to the manner of its reception into the system,—whether through the lungs, skin or stomach; being swallowed with the saliva,—or in all these ways combined. In like manner are we unacquainted with the parts on which its first morbid impression is produced,—whether the solids or fluids,—the nervous system or the circulating mass;—and whether the appreciable post-mortem appearances are the evidences of the first links in the chain of diseased action, or the evidences of links consecutive to others which have left no proper appreciable lesion.

Besides a host of painful and anomalous neuralgic affections, this agent is the cause of a class of fevers, the principal or peculiar characteristic of which is the presence of intermissions or remissions, of longer or shorter duration, and more or less complete; but in almost all cases, more decidedly marked than in the other fevers.

Of the fevers alluded to, the remittent is of most general prevalence perhaps, and in consequence of the diversity of opinion relative to its treatment, and the lengthened disputes and discussions, to which it has given origin, possesses much interest.

Under this head at present I shall not include yellow fever;—although it is considered, perhaps by a majority of the profession, as a modified form of remittent fever, produced by a modification of the same predisposing cause,—inasmuch as some recent investigations lead to a belief in their total dissimilarity, as proved by a difference in their pathological changes,—and for a better reason, I have not seen the yellow fever.

Between a well-marked case of remittent fever, and a well-marked case of intermittent fever, the distinction is palpable and the diagnosis easy,—and yet they run into each other by such imperceptible gradations that the physician is sometimes puzzled under which head to place a given case. A case, too, which is distinctly intermittent at first, will from neglect or injudicious treatment sometimes suddenly, sometimes gradually, and

almost imperceptibly assume a remittent form. *They*, at least, are but mere modifications of the same disease, and may be supposed to present corresponding pathological changes.

Remittent fever has been divided into many varieties, dependent frequently upon the fancy of the writer, and having no real separate existence in nature; the different varieties passing by imperceptible shades into each other, as has already been stated to be the case between intermittents and remittents.

For the convenience of description I will make two principal divisions: the simple and pernicious; excluding, in my description of the former, all reference to a class of cases of a very mild character, with which the physician frequently meets, in which the pulse, during the exacerbation, seldom exceeds a hundred in the minute, and during the remissions falls to, or nearly to, the healthy standard,—the tongue remaining moist even during the exacerbations, the increase in the severity of the febrile phenomena in each exacerbation being scarcely perceptible, and all the other symptoms proportionately mild. In an elaborate article these cases would properly constitute the representatives of my first division, and an intermediate division would then be necessary to embrace the cases which I have here placed under it. I make this exclusion to save time and paper, and the necessity for the invention or introduction of a name; and the more willingly, as the cases to which I have reference are so well understood as scarcely to require a separate description in a strictly practical article; and yet to omit mention of them might create confusion or misapprehension.

An attack of remittent fever is sometimes developed without any premonitory symptoms whatever, though most frequently it is preceded for a day or two by slight headache, want of appetite, bitter taste in the mouth in the morning, pains in the joints, and a general feeling of discomfort and malaise.

The development of the first exacerbation is generally preceded by a slight chill, of shorter or longer duration, sometimes by a well-marked ague, and in others a sensation of coldness, with shivering, is felt, especially when the patient turns in bed, or in any way disturbs the covering, for several hours; the entire surface, even the extreme portions of the fingers and toes, feeling preternaturally hot to another person at the same time. Where the attack is purely remittent from the beginning, a second well-marked ague hardly ever occurs, though in all cases, whether the first exacerbation were ushered in by an ague, or merely by slight rigors, a recurrence of the latter in a very slight degree frequently precedes the second and third, and occasionally even the fourth and fifth exacerbations. It is not rare, however, for cases subsequently remittent to commence with purely intermittent paroxysms, and when this is the case, so long as the intermittent character continues, each paroxysm will of course be ushered

in by a well-marked ague. Where the fever is of the double tertian type, the first and third, perhaps the fifth exacerbation may be ushered in by tolerably distinct agues, while the second and fourth may be preceded by but the very slightest sensation of coldness, if any. Particular hours of the day have been named as the periods at which remittent fevers most generally commence, but in this respect I do not think that I have found them to observe any regularity,—the period of the first exacerbation being entirely or mainly dependent upon the period of the application of the exciting cause. For instance, the predisposition having already been engendered by the poisonous agent, an indigestible or too hearty meal, exposure in a shower of rain, to the damp night air too lightly clad after having been much heated during the day, and many other circumstances, may be sufficient to excite into action this latent predisposition. Now, it will readily be perceived that of the exciting causes here enumerated, (and the same is the case with those not mentioned,) the time of the application must necessarily vary, and a corresponding difference in the period of the development of their effects will also be observed. The attack of fever excited by an indigestible supper, will probably be ushered in after bed-time,—that caused by an indigestible breakfast will probably first show itself in the forenoon. Before proceeding further, I will observe, for fear of being misunderstood, that I am aware that some authors look upon the latter as the predisposing causes, and the poison itself as the exciting cause. It is altogether probable that exposure to sudden vicissitudes of temperature, irregularity in regard to diet, intoxication, &c., may all predispose the system to be more unfavourably acted on by the poison when received, and may even predispose to its reception, and under such circumstances they may be enumerated among the predisposing causes. Again, the concentration of the poison and the quantity received may be so great that in itself it may produce the immediate development of the disease, and under such circumstances is consequently the exciting cause. But that this is the reverse of what may be considered the general rule, is proved by the fact, that in almost every instance the development of the first paroxysm is immediately preceded by some one of the causes which I have considered as the exciting, (any of which even in a system not under malarious influence, is frequently followed by disease of a different character, or by more or less functional irregularity or derangement,) and that too not unfrequently, long after the patient has ceased to be exposed to the reception of malaria, and in situations far remote from its influence. Lempriere (*Diseases of Jamaica*) says,—"It seems often difficult to determine at which particular period this poison is received into the habit; since its effects are frequently not observed until a long time after the person has been apparently exposed to its influence; while in others, by the ambiguous symptoms which will sometimes occur for days, or even weeks before the disease is fairly formed, or even discriminated, it would appear to be

gradually getting into the system, or be waiting for some change in the constitution to give it force or action; while we have many instances of persons when overheated or intoxicated, or in fact under the influence of any of the predisposing causes, immediately after exposure to a *current of the land wind* being immediately seized with all the symptoms of the remittent or intermittent fever." The author here seems to consider the "land wind" as the mere conductor of the malaria, which he looks upon, in such instances, as the exciting cause. But might we not rather consider the vicissitude of temperature produced by the land wind, and the intoxication, as both exciting causes acting on a subject in whom "*it* (malaria) *would appear to be gradually getting into the system, or be waiting for some change in the constitution to give it force or action?*" On the usual catalogueof "predisposing causes," such as the depressing passions, exposure, &c. &c., I shall not dwell, as they do not predispose to remittent fever in a much greater degree, if at all, than to any other acute disease, to the exciting causes of which the patient may be exposed; but look upon malaria as the only *peculiar* predisponent of this affection.

But to resume: at whatever period of the day the first exacerbation may occur, there is a tendency in the subsequent ones to manifest themselves in the after part of the day, say some time between noon and six o'clock in the evening, and so strong is this tendency that in most of the cases in which the exacerbations anticipate, the first will be found to have occurred after this period, and in nearly all in which any of the early exacerbations are deferred or protracted, the first will be found to have occurred before this period. In fevers of the double tertian type, however, the exacerbations will, in a large majority of cases, be found to occur alternately in the fore and after part of the day.

During the continuance of the cold stage, whatever form it may assume, the patient suffers much from pains in the loins, and, indeed, in all the larger joints. Nausea and vomiting also commence before its conclusion, and if a meal has recently been eaten it is generally rejected. Excessive thirst, looked for mostly in the height of the exacerbation only, is almost always present also. I shall proceed no further, however, in the description of a single paroxysm, but take up the different organs and functions separately, and speak of the symptoms as connected with each in order.

Heart and pulse.—Although during the forming stage of the first paroxysm the pulse is small, and probably soft and weak, the action of the heart is labouring and strong, the sounds and impulses being increased; with the development of the hot stage, however, they are still further augmented, and abate during the remission. In the progress of the case, when the tendency is to a fatal termination, whatever the apparent debility of the patient, and weakness of the pulse, the sounds of the heart are generally loud, and the impulse stronger than natural, almost up to the last hour. The pulse from being small, as in the cold stage, in almost every case

during the height of the exacerbation becomes moderately full at least, sometimes very large. It is seldom hard, but most generally moderately firm. I have but a few times met with a pulse corresponding with my impressions of the *hard* pulse, as derived from the examination of patients labouring under acute pleuritis, while a student of medicine in Western Pennsylvania. The instance, of which I have now the most distinct recollection, was during the height of the first exacerbation in a lady. Without coma or stupor, there were evidences of the strongest determination to the brain, in the red and fiery eye, the crimson cheeks and throbbing temporals and carotids, and the most violent headache. A large bleeding relieved her and prevented the case from becoming complicated with encephalitis.

As regards its frequency, the pulse, during the first paroxysm, generally rises to from 120 to 125, abating again during the remission, sometimes to within a few beats of the healthy standard. In the second exacerbation, any peculiarities of the pulse existing during the first, will be augmented. Was it full and firm? it becomes more so; or soft or small? these characters are more marked; and in any event an increase in its frequency takes place with each succeeding exacerbation, till a favourable impression is made, and the disease is measurably or entirely controlled, or till a different termination takes place. Where the pulse was full and firm at first, these characters pertain to it during the first few paroxysms, sometimes with an increase; but after this, so long as the disease remains uncontrolled, in each succeeding exacerbation a diminution of its fullness occurs. It gradually becomes smaller, generally more tense, and by the fifth or sixth exacerbation will probably number as high as 140 or 145; and, indeed, if the progress of the case has been rapid, and is verging to a fatal termination, it may far exceed this. In the last exacerbation, in fatal cases, the frequency of the pulse rapidly increases, becoming smaller and thready, and at length imperceptible. Sometimes, however, this rapid increase in the frequency of the pulse does not take place in the earlier progress of the disease, and perhaps during the fourth or fifth exacerbation may be but a few beats more frequent than during the first. In such cases an aggravation in the other symptoms proceeds at the same rate. This slow progress of the disease is rare in cases not favourably influenced by medicine.

Generally, as in the exacerbations, so during the remissions, an increase in the frequency of the pulse will be found in each succeeding one,—together with marks of a less perfect remission, as indicated by all the other symptoms. Though in every particular should the state of the pulse be carefully noted in deciding on any course of treatment, yet no clearer indications can perhaps be deduced from anything else connected with it, than from its frequency,—its relative frequency at one period of the twenty-four hours as compared with another. In many cases, in their advanced stages, the remissions become very obscure, from the abatement of thirst, heat of skin, dryness of the tongue, &c., not being sufficiently appreciable at such

times to mark them. Now in regard to the frequency of the pulse in the evening as compared to what it was in the morning, or any other given time, there can be no mistake; and an increase of but a few beats at certain regular periods, will give sure indications as to the type of the fever, and consequently most important ones in regard to treatment. Of course, in drawing our conclusions, allowance must be made for that increase in the frequency of the pulse which occurs at certain periods in the twenty-four hours, even in a state of health, and in all febrile diseases not strictly paroxysmal. For instance, in our febrile diseases, independent of the regular periodical exacerbations, there is always a tendency to an increase in the frequency of the pulse in the afternoon. Now, being aware of this, and finding the pulse at this time not more frequent than it had been in the morning, perhaps two or three beats less frequent, we have sufficient grounds to suppose this the period of remission.

Respiration, in a majority of cases, undergoes, during the exacerbations and remissions, an increase and diminution in frequency proportionate to the variations in the pulse. This is not invariable, it being occasionally disproportionately slow or fast. Of course any modification of the function of respiration produced by inflammation of any of the thoracic viscera, being merely accidental, the consequence of a mere accidental complication, need not be noted.

The tongue, in the first exacerbation, may remain moist, sometimes almost entirely natural; but in most cases the edges will be redder than in perfect health, and the dorsum covered with a thin yellowish, or dirty white fur. This latter is more or less dependent, however, on the colour of the matter ejected from the stomach, as it is, indeed, through the whole progress of the disease—receiving a yellowish tinge from bile of that colour, which is generally the character of that thrown up in the early exacerbations, and having its shades modified later in the disease, by the green vitiated matter thrown up at that period. In the second exacerbation the moisture about the tongue is slight, though it is not, properly speaking, dry. In the third or fourth, it is apt to become dry, at least on the dorsum, though the edges remain moist; and still later, it becomes parched, rough and cracked. With each succeeding exacerbation, also, as it becomes dryer, the colour becomes darker; from the natural colour or a dirty white, through all the intermediate shades, up to a dark brown, nearly black, receiving a modification in its tints, as has been before observed, from the matter ejected from the stomach. It also becomes intensely red at the edges, contracted and sharp pointed. During the remissions, the dryness and other marks of the exacerbations abate somewhat, and so much is this the case, that in the remissions following the earlier exacerbations, in which the tongue was dry, it becomes moist and nearly natural; and one not accustomed to the treatment of remittent fever, is surprised to find the tongue, that but an hour or two before was dry, parched and pointed, moist

and relaxed, and the same in a short time again presenting the previous characters in an increased degree.

In each remission there is a tendency in the tongue to assume a more natural appearance, but in each succeeding one this is less nearly approached than in the preceding; so that although in any given remission, its appearance will have improved upon what it was during the exacerbation which preceded that remission, it will be worse than during any former remission. Of course, from the time that the case becomes decidedly benefited by medicine, although the exacerbations may not be immediately arrested, this increasing dryness, &c., of the tongue with each exacerbation ceases, or becomes less marked. In the first exacerbation of cases, not of a very severe character either, the tongue will sometimes be found dry, parched and fissured on the dorsum, although it may become less so, or even quite moist in the next exacerbation. In these instances, the first exacerbation has probably supervened soon after the stomach had been loaded with indigestible food, which fortunately is generally rejected before the next exacerbation. There is this difference between the appearance of the tongue to which I have just alluded, and that which becomes dry gradually in the progress of the case: the former retains its natural size and shape, while the latter, as already observed, becomes narrow, sharp and contracted.

There is no symptom more strikingly characteristic of remittent fever than excessive irritability of the stomach, and no feature of the disease more embarrassing to the physician, or more annoying to the patient. Generally, this commences during the first chill, and attends throughout the whole progress of the disease,—abating, sometimes ceasing during the remissions, to come on again in an increased degree in the succeeding exacerbation,—and with each it increases, till in the last exacerbations of fatal cases, there is scarcely the shortest interval between the spells of vomiting, or ineffectual efforts to vomit, and all the time attended with the most distressing nausea. The matters ejected from the stomach vary as the disease advances. During the first exacerbation, anything eaten but a short time before will probably be thrown up, sometimes mixed with, but more frequently followed by yellow bile of a healthy appearance. In the further progress of the case, the bilious matter thrown up will probably assume a greenish cast, and at length become of a dark grass green, and small in quantity, most frequently only sufficient to give a bluish-green tinge to a glass of water that may have been retained longer than usual. In severe cases, bilious matter, at least in any considerable quantity, soon ceases to be thrown up, and the matter ejected, independent of medicines, and such fluids as may have been recently swallowed, is composed of a tough, glairy fluid, the most tenacious part of which, containing suspended in it small, dark, bluish-green flocculi—at other times a greenish-brown, dirty-looking sediment—subsides and adheres to the bottom of the vessel.

As the disease advances, although the efforts to vomit become more incessant, the matter vomited diminishes in quantity, so that frequently, in hours of straining and retching, nothing is thrown up but the fluids, &c., recently swallowed. I here speak of the nausea and vomiting as they occur in severe cases, in which the medicines administered, if they have not coincided with the disease in producing them, have at least failed to exercise any decidedly favourable influence.

The bowels are represented by some authors as being obstinately costive in this disease, but this I am disposed to think is a mistake. Generally speaking, they are easily influenced by the action of purgatives, which even in moderate doses sometimes irritate the mucous membrane of the bowels very much, and produce great prostration by their excessive action. Sometimes, indeed, the disease is ushered in with a spontaneous diarrhœa, or, as this is generally combined with vomiting, a genuine cholera morbus. This is rare, however; but still the *tendency* to diarrhœa is so strong, and its consequences so injurious, that great care has to be observed all the time, more especially after the first or second exacerbation, in the administration of purgatives. The discharges from the intestines, from the operation of a first purgative, are composed of a mixture of bile and fecal matters, but of the latter there is scarcely any observed in the farther progress of the case. Now, they are thin and composed of bile, sometimes yellow, at others green, in small quantity, diluted in a large amount of serous fluid. Sometimes they are not even tinged with bile, but are clear and transparent almost, and again of a reddish cast, containing, in both instances, numerous small mucous flocculi. When the operations are of the latter character, they are invariably more frequent during the exacerbations, at which time they are also smaller in quantity, attended with griping, and considerable soreness of the abdomen. When the evacuations are fecal and bilious, or of consistent bile, they are more frequent, or more likely to supervene during the remissions. Lumbrici are frequently discharged from the bowels. Among negroes they are common with adults, and even white adults occasionally discharge them; but with both colours, among children, they are much more common; and in their case may be considered a serious complication, as, from the additional irritation which their presence creates in the intestinal canal, the tendency to convulsions is much increased.

The symptoms, as connected with the skin, as with all the other organs, vary both with the period of the disease, and the particular period of the exacerbation. In the forming stage of the first exacerbation, the extremities will generally feel cool or cold to another person, though this is not always the case, even when the complaints of suffering from cold are the loudest on the part of the patient. At all events, the temperature of the chest and abdomen, even at this time, will generally be found somewhat above the healthy standard, and that of the head considerably so. Soon, however, the general temperature increases, and the whole surface be-

comes hot, and a vivid flush makes its appearance not only on the face, but occasionally over the whole body, in patients at all plethoric, or of a sanguine temperament. This continues for a longer or shorter period, dependent, in a great measure, on the type the fever is going to assume; for it will be shorter in the paroxysm of a quotidian than of a tertian, when the heat and redness of the surface decline, and a perspiration appears, at first but the slightest moisture about the fold between the under jaw and neck, gradually becoming general and free. In the succeeding paroxysms, the heat of the body is still about the same, but if the case be at all protracted, there is, after a certain period, a tendency to coolness in the extremities, even during the height of the exacerbations; but unlike the coolness attending the early rigors, the patient is unaware of it, and is much distressed with a sensation of burning heat. This coolness of the extremities gradually increases with each succeeding exacerbation, after it has once appeared, and in cases far advanced towards a fatal termination, frequently extends nearly to the shoulders and groins, the surface of the abdomen and chest being most intensely hot, at the same time.

The perspiration attending the remissions becomes less and less in each, and in the advanced stages of an aggravated case, is replaced by a clammy exudation from the cold extremities, while the body is dry and parched. The vivid flush of the surface spoken of is much less apparent with each succeeding exacerbation, and in its place a very slight shade, of a purple or livid tint, makes its appearance more palpable in the face than elsewhere. This latter is not universally the case, however, for the skin frequently becomes yellow, the shade, scarcely perceptible at first, gradually deepening over the whole body, and does not commence and proceed from any particular point, as is said to be the case by Lempriere, Bancroft, Mosely and others in the yellow fever. It is, however, for a very obvious reason, most frequently first noticed in the conjunctiva. The fact that this yellow colour of the skin sometimes occurs while free and frequent bilious evacuations are taking place from the bowels, shows that it is not always in consequence of bile or its colouring matter being received directly from the liver into the mass of blood; and that the same occasionally appears when the evacuations contain no bile, and are composed principally of a muddy serum, render it probable that it is not, in all cases, in consequence of its resorption from the duodenum and small intestines. There is no one theory that satisfactorily explains its occurrence in all cases.

Petechiæ and vibices are never seen, though sudamina are occasionally observed in protracted cases. They generally appear only about the neck and breast, and are much more common with children than with adults.

The expression of the eye has nothing peculiar in it in the earlier exacerbations. Where the febrile excitement runs high, it is, perhaps, bright and sparkling, the conjunctiva retaining its pearly whiteness, and this sometimes continues to the last paroxysm; the patient's countenance wear-

ing now an expression of indescribable anxiety. At other times it is suffused and of a reddish muddy tinge; its motions are slow and languid; and in such instances the countenance wears rather an expression of dull indifference. In all instances, of course, where the brain becomes affected in the progress of a case, this is indicated by the appearance of the eye, as in the primary affections of that organ.

The secretion of urine is scant and highly-coloured, and muddy, during the exacerbation, from the colouring matter floating suspended in it; and sometimes, late in the disease, is of a deep reddish-brown, possessing apparently a degree of consistency greater than natural, and is passed with pain. In the remissions it is more copious and transparent, but throws down a muddy flocculent deposit sometimes; at others a red, pulverulent matter.

As the description of the tongue already given indicates, the secretion of saliva and mucus from the salivary apparatus and mucous membrane lining the mouth, is more or less diminished, or at times entirely suspended during the exacerbations; again becomes free during the remissions, but less and less so with each succeeding one, so long as the disease is allowed, as is its natural tendency, to present worse symptoms in every advancing paroxysm. Late in the disease, when the case is of so aggravated a character that a few shades further put it beyond hope, the whole interior of the mouth becomes, as it were, almost completely dry, and the mucus inspissated, dry and black, and collects on the lips, and between the teeth. A change for the better, whether spontaneous, or in consequence of the favourable action of remedies, is, perhaps, earlier indicated by this secretion than any other, probably because more readily brought under immediate observation. Even when the tongue is quite dry during the exacerbations, a degree of moisture is apt to appear, at least upon its edges and lower surface, during the remissions; and that a favourable change is about to take place, or has already done so, and that the coming exacerbation will be less severe than the preceding, may frequently be inferred from the slightest increase of this moisture, during a remission, upon what it had been during the previous one.

The patient is apt, during the first two or three paroxysms, to complain of a bitter taste in the mouth, but after this, with the exception of the impression made by matters vomited up, and the taste left by medicine, nothing peculiar in this respect is observed till the commencement of convalescence, when a disagreeable bitter taste is again complained of for a few days.

From the commencement of the attack, during nearly the whole period of the disease, the disgust for food is almost insurmountable. It is only during one or two of the earlier and more complete remissions that a patient can be induced to swallow any kind of nourishment, and that only at the solicitation of friends, and not from any desire of his own. Towards

the close of a case that is taking a favourable turn, and before the establishment of complete convalescence, he will swallow a few spoonfuls of a light broth, or something of that character; and even then, not to gratify any desire of his appetite, but from a persuasion that nourishment is necessary for him in his weak state. On the other hand, convalescence once established completely, the appetite is generally craving and the strength is rapidly restored. In the case of negroes, however, the disgust for food is a much less prominent symptom.

The thirst, the desire being for *cold* drinks, is most excessive from the very first paroxysm, and this is almost the only symptom of the disease which does not increase with the repeating exacerbations, so long as the disease may be considered unchecked. But although the thirst, in the first exacerbation, is, as a general rule, so great as to leave no room for it to increase, it is not so with the remissions. During the first remissions, the thirst abates somewhat, but this abatement is less and less with each one that succeeds, and after a while, even during the period of remission, the thirst is most excessive, and large draughts will be rapidly and in quick succession swallowed, although with the confirmed assurance that in a few minutes they must be returned. Pure cold water is the drink most generally preferred, and if any addition is at all desired, it is always something sour, such as vinegar, tartaric acid or lemon juice.

In regard to the muscular system.—The *sensation* of debility is extreme, and is frequently as much complained of in the first or second exacerbation as later in the disease, when the *actual debility* is much greater. At a time when a patient will make complaints of the greatest debility, let it become necessary for him to get up, or assist himself in any way, and he will do so without any call for aid; or if he does demand it, will show himself at the same time capable of considerable muscular exertion. It is only in very protracted cases—and few such occur in this part of the country—that the patient requires much assistance in performing any necessary movements, provided he is sufficiently sensible to be aware of what is necessary.

It has already been observed, that, during the cold or forming stage of the first exacerbation, there was considerable complaint of pain in the small of the back and in the larger joints. As the hot stage is developed these frequently abate, and sometimes entirely subside. They may increase again, though in a limited degree, at the commencement of one or two of the next exacerbations.

As the febrile excitement is developed in the first exacerbation, pain in the head becomes violent and distressing, and is of a throbbing character. It is generally in the forehead, just above the frontal sinuses, but is also occasionally felt in the occipital region. During the earlier remissions it either abates or entirely subsides, but later is very distressing during the remissions. At this period, too, it loses its throbbing pulsating character,

and is fixed and steady. Pressure on the abdomen causes a sensation of pain always in the epigastric region; in the left hypochondriac when enlargement of the spleen exists, and towards the close of protracted cases, sometimes an obscure sensation of pain between the umbilicus and the right iliac fossa. Rarely, indeed, have I observed anything like moderate pressure to produce pains in the *right* hypochondriac region. Late in the disease a most distressing burning sensation is felt in the region of the stomach, frequently extending up the œsophagus, and generally attended with a harassing singultus.

The abdomen, early in the disease, possesses its natural fullness. After the bowels are evacuated it generally sinks in proportion to the extent of the purging, if not carried too far; but beyond a certain point, purgation scarcely ever fails to produce tympanitic distension. Sometimes, in cases of a very violent character, this tympanitic distension supervenes early in the disease under the action of a few small doses of purgative medicine, and accompanies almost always a spontaneous diarrhœa, which in a few cases makes its appearance early. In the advanced stages of cases that are at all protracted, more especially where purgatives have been used freely, a slight degree of tympanitis attends, and in almost every such case is accompanied with a state of the bowels requiring the restraining action of opiates or astringents.

An indescribable sensation of "weight," "anxiety," "oppression," as it is differently spoken of by different patients, is felt in the epigastric region, and is most distressing and adds very much to the discomfort of the patient. It is undoubtedly connected with the condition of the stomach, as it is always momentarily relieved by the evacuation of this organ by vomiting.

Where the febrile excitement runs high, slight temporary delirium occurs, even during the first exacerbation. It is most frequently associated with a drowsy stupor, during the partial waking from which it is manifested, and passes away as soon as the patient is sufficiently roused to bestow his attention. This delirium, like the dry tongue, in the first exacerbation, may be present in cases of but moderate severity, and under the use of a gentle cathartic, a small bleeding, or the spontaneous evacuation of the stomach, disappear not to return again in the succeeding exacerbations, although the violence of the disease may not be subdued; and, indeed, in cases in which the symptoms generally are on the increase as regards severity, it may remain absent during several exacerbations, and then again appear, or may not return again at all should the patient recover; or should he die, but in the last exacerbation. With the exception of this temporary delirium just spoken of, a patient is apt to pass through several exacerbations without any intellectual aberration. It generally occurs earlier in sanguine plethoric subjects, and in such is less indicative of danger. Once fairly established, with the exception above noted, like all the other phenomena of the disease, while the other symptoms are on the

increase, this one is also progressive, and becomes worse and worse with every exacerbation. During the remissions, at least the earlier ones, the delirium disappears, and even in the later ones, generally abates considerably in violence, though but shortly before a fatal termination. An amendment once commenced, in a case where the delirium disappears during the remission, this symptom scarcely ever returns, however slow the progress of the cure; but where the delirium remains during the remission, it may continue even after a decided amendment has taken place, abating more or less every day till its complete disappearance, which always takes place during the hour of remission. The delirium is scarcely ever so violent (except in a few malignant cases that run through their course very rapidly), as to require any restraint of the patient. In a very few protracted cases only does it assume that character called "low and muttering," is seldom if ever attended with picking the bed clothes, or subsultus tendinum, though occasionally the hands are extended in sleep, as if reaching for some imaginary subject of a troubled dream. With some a weight seems frequently to rest upon the mind relative to the duties they have been accustomed to perform. They talk much about them, frequently manifest a desire, and now and then make attempts to get up to attend to them. Chisholm noticed this in his "*Malignant Pestilential Fever of Grenada.*" "A man much involved in debt is incessantly arranging with his creditors. A soldier talks of the duty he has to perform, and ever and anon expresses his fears of the officer's displeasure. A sailor in like manner is engaged in maritime affairs."

No one case will probably be marked by all the symptoms here enumerated, in their regularly advancing shades, principally owing to the modifying influence of remedies. But where the progress of the case is left to take pretty much its own course, or, the remedies are such as will not have an immediate and decidedly beneficial influence, or such as will not coincide with the disease in developing or hastening the progress of any of the symptoms,—such will be found to be their course. The symptoms, however, as manifested by any particular part or organ, may be rapidly increased or hurried on in advance of the rest by certain peculiarities in treatment. Thus the dryness and deep colour of the tongue may be augmented with disproportionate rapidity to the general progress of the other symptoms, by the use of drastic purgatives, or even by the milder ones in large or frequently repeated doses; and the frequency and smallness of the pulse may, in like manner, be hurried on in advance by an injudicious use of the lancet.

If, as has already been remarked, it is difficult to draw a line of demarkation between intermittent fever and remittent fever, still more so is it to define exactly the difference between simple and pernicious remittent fever. We cannot be governed by the degree of severity of the symptoms—or their character in the last or few exacerbations preceding death; for at this time a

case which may have commenced as the mildest remittent,—that for days, or sometimes even for a week or more, after its commencement, may have presented no symptom of severity, and during all this time may have been curable by the smallest quantity of medicine in twenty-four hours, may by neglect or injudicious treatment be made to prove fatal,—and, in that case, the symptoms, though more slowly developed, are exactly the same before the termination as those which the most rapidly fatal case presents. In all cases that prove fatal there is a general sameness in the symptoms, differing only in the rapidity of their development,—and in every case there is, as a general rule, a tendency, so long as the disease remains unchecked, in each symptom to a particular point, and consequently there is no fatal case, however simple, or however malignant it may have been at first, in which the symptoms are not very much the same towards the close. In the *American Journal of Medical Sciences*, for April, 1841, among other cases of remittent fever reported by Dr. Stewardson, there is one set down as pernicious remittent or intermittent fever, (the case of Edward Long,) in which the patient, attacked on the 9th of September, presented no symptoms of severity till a degree of stupor set in on the 19th,—proving fatal on the 22d,—the thirteenth day of the disease. In the April No., for 1842, of the same Journal, in a continuation of the same article, is reported the case of Peter Myers, a seaman, who is supposed to have been sick during a passage of a week's duration, from Savannah to Philadelphia,—having been taken sick on 17th, and received in hospital on 24th. It is known "that he had had a chill about 12 o'clock, daily, followed by high fever, with perspiration." "*He had been freely vomited and purged with salts and senna.*" On the evening of admission, "the intelligence was very dull; answers with difficulty; no headache; conjunctiva injected; tongue furred, moist; pulse weak, (frequency not stated;) great prostration; profuse cold perspiration." The patient recovered, and was considered convalescent by the 2d of October. Dr. Stewardson observes,—"Those who are practically acquainted with this form of the disease, will readily recognize in the above description a case of pernicious remittent fever." There are, I am disposed to think, very few southern physicians who will not recognize in the cases alluded to above such as they are in the habit of meeting with frequently in practice,—cases originally mild and simple, by neglect and bad treatment made to assume a grave aspect. Should the above cases be properly classed under the head of pernicious remittents, then, with the same propriety, might at least three-fourths of the cases of remittent fever occurring in the practice of the physicians of South Alabama—considered by them as simple remittents—a large majority of them curable at an early period, in forty-eight hours,—be placed in the same class. Here we are called to prescribe for few cases, indeed, which, if left to the "tender mercies" obtainable by a sailor on a vessel at sea for a week, without a physician, and "freely vomited, and purged with salts and senna,"

would not present at the end of that time symptoms fully as grave as those enumerated above.

It is a fact that the same train of symptoms frequently received very different appellations in different parts of the world, and probably on this account a very different treatment. For instance, in the *Western Journal of Medicine and Surgery*, for December, 1843, we have the following symptoms given as indicating a case of remittent fever. "Unwilling to be in bed all the time, he would occasionally get up and walk about the house; tongue coated over with a thin white fur, through which the papillæ protrude, the sides and apex red; temperature of the general surface normal; pain in the head and back; pulse from 75 to 80, the former in the morning, the latter in the evening; alimentary canal and urinary organs without any prominent derangement; thirst inconsiderable *at first*, but gradually increased; appetite impaired, but not entirely suspended." For these symptoms the patient was purged and took nitrate of potash, ipecac., and calomel, "until some evidence of ptyalism," without benefit. The nitrate of potash was now left out and the calomel and ipecac. continued. "When the system was not under the influence of the medicine, it revived and put on the appearance of amendment, and when medication was again resumed, the case immediately assumed an unfavourable appearance." "The patient gave no evidence of convalescence for the period of six weeks from the time he was taken ill." "Nor do I think," says the author, "that he ever would have recovered had the treatment not been changed for the purely physiological. With this the patient steadily, but not rapidly, recovered, for so great was the emaciation that 'skin and bones' are the only terms that convey anything like an adequate idea of the condition to which he was reduced." While a student, I remember that cases presenting just such symptoms as the preceding, were placed by my preceptor in his case book under the very unsatisfactory and indefinite caption, "derangement of the stomach," and were generally cured by him with five grains of blue mass, an ounce or two of infusion of senna with salts, and twenty-four hours abstinence. There are several of the above interesting cases detailed, and for the sake of comparison it is to be regretted that the author did not give an epitome of the symptoms present after recovery.

Seeing that the symptoms of simple remittent, aggravated by neglect or injudicious treatment, are at a late period too similar to those of a case originally and primarily pernicious, the principal difference being in the different degrees of rapidity with which they run their course, to admit of a distinction from these only, at this time, some other distinction must be sought. All the authors whom I have consulted, whose opportunities have been such in the fevers of malarious origin as to entitle their opinions to much weight, recognize only as pernicious remittent, cases which almost from the first present symptoms of great severity, and which, if not successfully treated, have a tendency to terminate fatally within the first five or six days, many much earlier. It has been divided into varieties de-

pendent upon the organ principally affected, or some peculiarity in the appearance of the cases.

In what is called the comatose remittent, the brain is the organ principally implicated. Generally after a slight chill, high febrile excitement comes on, with flushing of the face and general redness, with fullness and plumpness of the surface of the body; full and firm pulse; throbbing of the carotids; and deep and complete stupor. The respiration is slow, deep, and sometimes stertorous. Pupils frequently dilated, rarely contracted. The patient remains in this condition for a longer or shorter period, according to the type of the fever, tertian or quotidian. Gradually the stupor wears off, and for several hours of a remission scarcely any appearance of danger may be present. Again, at the regular period, but frequently anticipating by several hours, the same train of symptoms set in with greater severity, to be followed by a less perfect remission, and so with each paroxysm, till a fatal termination takes place, or a favourable influence is exerted on the disease. The remissions are sometimes so imperfect that even at this time there is a tendency to stupor, and in one case that I treated in 1842 the patient lay eight days without speaking. When called to him he presented all the symptoms of apoplexy, and nothing revealed the true nature of the case but a disposition to yawn and stretch every morning, continuing from 7 A. M. to 10 A. M., and a slight abatement in the force, and a diminution of a few beats in the frequency of the pulse, with a temporary disappearance of the stertor. During the remissions, while yawning and stretching, his appearance was exactly that of a person just on the point of awaking from a sound and refreshing sleep, and the bystanders, even those who had seen him several times, could scarcely divest themselves of the impression that this was the case, and were in momentary expectation of seeing him open his eyes and address them. The case terminated favourably, the patient waking up during the hour of remission on the 9th morning, and required but little treatment after.

The above is the only form of pernicious remittent fever, in which the pulse is at once full and *firm*. This probably arises from the fact that the brain is the organ principally affected; alone suffering, and sustaining the force of the disease. This idea is favoured by the appearance of the tongue,—which is frequently moist—and the absence of nausea and vomiting, and of epigastric tenderness. There is a much more malignant, and rapidly fatal form of the comatose remittent, in which, together with complete stupor, throbbing of the temporals and carotids, frequently convulsions and a contracted pupil, there are also present a *shrunken* state of the surface, quick, small, and corded pulse, coolness and clamminess of the extremities, and excessive heat of the abdomen, chest and head, distension of the abdomen, tenderness of the epigastrium, vomiting, and diarrhœa, either spontaneous, or from the action of small doses of purgative medicine, dry and parched tongue, and quick and hurried respiration, all tending to indi-

or six days, many much earlier. It has been divided into varieties de-

cate a severe implication of the abdominal viscera as well as the brain. This form of the disease once established in adults, a favourable termination rarely takes place. Though with children it is not unfrequently otherwise. There is another rare form of comatose remittent, scarcely deserving to be classed with the pernicious fevers, in which the functions of the brain seem to be, as it were, suspended, without anything like febrile excitement, or determination of blood to the organ. The pulse, skin, tongue, respiration, pupils, secretions, &c., to all appearance indicate a perfectly healthy state. The patient during the exacerbation seems to be in a healthy, gentle and refreshing slumber, and the only thing indicative of a different state is, the impossibility of awakening him. In spite of the cold douche, sinapisms, &c., he continues to sleep out the exacerbation. During the remissions there is nothing indicative of a disordered state of the system. His health appears almost perfect, but at the regular period, without chill or rigor, he gradually again falls into his former state. In the *American Journal of Medical Sciences* for July, 1845, page 105, a case of this kind is related. Robert Jackson (*Fevers of Jamaica*) is the only author that now occurs to my memory, who has in any way alluded to such cases.

There is a form of malignant remittent fever, known in many parts of the southern country as "congestive fever," in which there is rarely, till a short time preceding death, any affection of the brain. The principal characteristic of this form of fever is the absence of any great degree of febrile heat on the surface generally, with extraordinary coldness of the extremities. The pulse is small, corded and very frequent, varying even in the first or second exacerbation from 130 to 140, and should a third or fourth exacerbation occur without being mitigated or modified by treatment, it still increases in frequency till it cannot be counted, and becomes small, thready and occasionally imperceptible some time before the death of the patient. The extremities with each exacerbation become colder and more clammy, while a proportionate increase in the temperature of the chest and abdomen frequently occurs. The conjunctivæ are white and pearly, except in those instances in which the surface becomes jaundiced, when they partake of the yellow tinge. So susceptible are the bowels to the action of purgatives, that the smallest doses produce hypercatharsis, the stools generally being a thin serous matter, sometimes tinged of a yellow colour with bile, but more frequently they are of a dirty reddish colour. The respiration is sighing, interrupted, and at times disproportionately slow, compared with the pulse. The stomach is excessively irritable, the matter rejected being principally a transparent ropy mucus in which is suspended a small quantity of a grass-green flocculent matter. The surface is frequently of a slightly livid tint, that of the extremities shriveled up and clammy, and covered with an exudation, cold, and so profuse as to have been likened by Senac to the "*Sudor Anglicanus.*" In this form of fever, the remissions are indicated more by a tendency to a natural temperature, than in any decided mitigation in the other symptoms.

Notwithstanding the small and thready state of the pulse in this variety of pernicious fever especially, the action of the heart will be found strong, as indicated by the loudness of its sounds and the force of its impulse. Dr. Parrish, in "Strictures on the use of the term Congestive," &c., in the *American Journal of the Medical Sciences* for April, 1845, looks upon what is generally recognized as the state of congestion, as "the consequence of *diminished nervous power*, and nothing more nor less than that state which occurs in all cases of sudden prostration." He also observes—"It is not a pathological state peculiar to this form of fever, or necessarily connected with it, except as one of the phenomena of nervous exhaustion, or of the dying state when this event happens." "It occurs to a certain extent in fainting, in nervous shock after severe accidents and operations, and under a great variety of circumstances where its existence is not noted as an element in the pathology of the disease. I conclude, therefore, that the use of the term congestive *in this sense*, is no more appropriate in the disease under consideration, than it is to any prostrate condition of the nervous system, induced from other causes. If it be, then we might say that every individual who dies of any disease or accident, is labouring under congestion, because, as the heart ceases its action and the tissues lose their tone, the blood becomes congested, or, more properly, settles in the heart, large vessels, lungs, and other central organs, leaving the capillaries and smaller vessels by the simple force of gravity." Certainly there can be but a very remote analogy between a fainting fit, or the other conditions spoken of by Doctor Parrish, in which the languor of the circulation in the extremities is accompanied by a feeble action of the heart, and congestive fever, in which, even when the pulse may be imperceptible at the wrist, the action of the heart is loud, strong and tumultuous. Prostration there certainly is, but where? In the capillary network alone? Muscular prostration is rather apparent than real, as evinced by the force with which the heart beats, and the fact that there is "oftentimes surprising muscular strength, until within an hour or two of dissolution, the sufferer being able to jump out of bed and walk about while he is pulseless." Can there exist such muscular force with exhaustion of the nervous power? When penning the above sentence, did any instances occur to the mind of Doctor Parrish in which he had observed it in connection with fainting, or any of the other conditions, to which he has likened the congestion of congestive fever? A state certainly exists in this disease which nothing else so well expresses as the word congestion. This is probably secondary, and consequent upon some modification of the nervous system. It may be perverted innervation, or *irregular distribution* of nervous influence, but certainly not diminished nervous power.

There is a modification, a shade of this variety of pernicious fever, produced by injudicious treatment, in cases where there is an original tendency to assume a bad character, and sometimes indeed it is to be feared, where

this tendency is not very great. It is most frequently brought about by drastic purgatives. It differs from the last only in a greater feeling of weight and anxiety about the epigastrium, more heat and distension of the abdomen, jactitation, a deeper-coloured and more parched state of the tongue, a more rapid respiration, an indescribable expression in the countenance of anxiety and apprehension, and where the abdominal distension is not too great to admit of a satisfactory examination, more violent throbbing of the descending aorta will be found.

The term *insidious* is applied to pernicious remittents, in which the first exacerbations, of a very mild character, are followed by a sudden and unexpected explosion of disease. As a large majority of the cases that I have seen deserving of this title have occurred in children under nine or ten years of age, I shall confine my description to the appearances presented in them. After having had one or two exacerbations of fever, so slight as scarcely to attract attention—perhaps not confining the patient to the bed or cradle more than an hour or two, which time is generally spent in sleep, at the regular febrile period, perhaps tertian, perhaps quotidian,—the most violent train of symptoms suddenly and unexpectedly set in. The skin is of a pale purplish cast, at first hot and dry, soon followed by profuse perspiration, warm in the beginning, afterwards, especially where the paroxysm is about to terminate fatally, cool and clammy. Stupor, strabismus, and frequent convulsions are present. The tongue is most generally smooth, clean, moist and relaxed, and the abdomen tumid. Just preceding each convulsion, there is frequently a rumbling sound in the abdomen, produced by a change of place, of flatus and fecal matters, and during the period of their continuance, evacuations are apt to take place from the bowels. These are composed principally of undigested food which had been taken during the previous remission. Portions of half ripe melons, including the seed, various kinds of nuts imperfectly masticated, raisin skins, &c., are the articles most generally found. This state of things is also frequently aggravated by a large dose of calomel, or some other purgative forced down the child at the moment of the first alarm, by the parents, simultaneously with sending for the physician. Many children die in the first exacerbation of this kind.

Other modifications of remittent fever might be enumerated, dependent mostly upon some peculiarity of constitution, or accidental circumstance connected with the patient. The more important ones, however, have been noticed.

The meaning attached to the word remission, in the present remarks, being somewhat different from that attached to it by some writers, particularly those whose experience with fevers of malarious origin is limited, a word of explanation may not be amiss. A state nearly approaching to an intermission, one in which there is an almost entire freedom from fever; a slight headache, a moderate increase of the natural frequency of the pulse and heat of the surface, some thirst, &c.; seems to be the condition, and the

only condition looked upon as a remission. With those practically acquainted with malarious fevers, there is no absolute or fixed standard of symptoms necessary to constitute a remission. Each case is judged by itself. Where a pulse, which at a certain period of the twenty-four hours beats 160 times in the minute, falls to 140 or 150; where the slightest abatement of thirst, or least degree of moisture appears on a parched tongue; or, if coma or convulsions be present, and there takes place a mere abatement in the depth of one or the violence of the other, without an entire cessation; or, delirium being present during the whole period of fever, a slight abatement in its violence; I say an abatement in any or all of these, occurring at certain fixed periods in the twenty-four hours, and regularly followed, at other fixed periods, by an augmentation, is sufficient to mark a remission. Thus, during the remission there may be present, coma, convulsions, delirium, thirst, parched tongue, great frequency of the pulse, anxiety, nausea and vomiting, headache, &c. &c., the remission, in cases of extreme severity, presenting a train of symptoms of much more gravity than the exacerbations in cases of but moderate violence.

In this passage from Pringle,—"These periods go on daily till the fever, if neglected, insensibly changes into a continued form," the words "continued form" must have reference merely to the presence of febrile symptoms of a more or less grave character at the usual time of remissions; not that there is no abatement of these at such times.

There is a strong tendency in remittent fever to a fatal termination when left to nature or injudiciously treated; in some slowly, in others with great rapidity. In almost all every symptom indicating an unfavourable termination augments with each exacerbation. In each exacerbation the organic lesions, by which death is brought about, are increased in number and in severity. There is rarely, I mean in cases originally of medium severity, anything like a spontaneous amendment. Besides this regular and gradual increase most generally observed, there are, at times, as has already been noticed, sudden and unlooked-for changes for the worse, rapidly and unexpectedly leading to a fatal termination. In the language of Lempriere, (*Diseases of the Army in Jamaica,*) "from a state apparently of little danger, without any assignable cause to death, there are frequently but a few hours interval." How different from the slow and gradual progress and the moderate tendency to death, under an expectant treatment of the continued fevers of colder regions. Few southern practitioners could be found to agree in the sentiment expressed by Doctor Miner, of Connecticut, that with a few exceptions, "he never saw a regular case of fever either run its course or *prove fatal*, that might not fairly be attributed to some *obvious* neglect or mismanagement on the part of the patient, or nurse, or physician."

We have some remarks to make on the treatment of remittent fever, but having already occupied so much space we must postpone the consideration of this branch of the subject to a subsequent No.

and heat of the surface, some thirst, &c.; seems to be the condition, and the

ART. III.—*Notes of Cases of Remittent Fever which occurred in the Baltimore Almshouse Infirmary, collected by* W. F. ANDERSON, M. D., and CHARLES FRICK, M. D., Resident Physicians of the House. *With an Analysis of the Cases, and Remarks,* by ALFRED STILLE, M. D., of Philadelphia.

[THE following cases occurred at the Baltimore Almshouse, in the summer and autumn of 1844. Their medical treatment was directed by Dr. Robinson, and their history and dissections recorded by Drs. W. F. Anderson and Charles Frick. They are particularly interesting, as going to confirm the observations originally made by Dr. Stewardson, and more recently by Dr. Swett, in regard to the anatomical characters of remittent fever. We may state that these characters have, still more lately, been confirmed by numerous dissections made, during the past season, at the several public institutions of Baltimore.]

CASE I.—Frederick Maunsell, ætat. 37, a German by birth, entered the hospital Friday, July 26. He has been for the last four months working at the Mine Banks. He was first attacked three weeks since, with a chill, followed by fever, violent cephalalgia, and ringing noises in his ears. Diarrhœa supervened a few days afterwards, with great prostration of strength. At the time of his entrance he had from one to three stools daily, great pain in his head, abdomen slightly tympanitic, pain over upper part of abdomen, febrile symptoms moderate, and the whole chest and abdomen covered with sudamina, interspersed with red spots, slightly raised, and which did *not* disappear on pressure. About his neck two or three of these had formed pustules. Carb. mag., and cups to epigastrium, were administered. On Saturday symptoms the same.

Sunday, 11 A. M. Patient lying on his back; complains of great prostration, violent headache; ringing noises in his ears; has had frequent stools during the morning, copious, fluid and green. Tongue coated in middle, red at tip and edges; abdomen tympanitic; pain on pressure over epigastrium; somnolency, alternating with low, muttering delirium. Has vomited this morning a greenish fluid. Pulse 120, small and frequent. 6 P. M. Delirium had increased; pulse almost imperceptible; eyelids half closed. In this state he remained, in spite of stimulants, till nine o'clock on Monday morning, when he expired.

Autopsy five hours after death.

Brain.—All parts, both substance and meninges, except dura mater, very much injected. No fluid in ventricles.

Lungs.—Healthy. *Heart.*—Softened, and lining membrane pale.

Stomach rather contracted. All about the cardiac part intensely injected, much softened, and of a darker colour than natural. The pyloric part injected, but not softened. It contained about four oz. of a dark fluid.

Duodenum at upper part injected. Brunner's glands observable.

Ileum.—Lower part much injected and softened. One of Peyer's patches perceptible.

tion of this branch of the subject to a subsequent No.

Spleen three times its natural size, softened to a pulp, of a bluish-black colour.

Liver.—Somewhat enlarged, of a bronze slate colour. Cut surface polished, the two colours commingled, and whole texture softened, particularly left lobe. *Mesenteric glands.*—Healthy.

Case II.—Henry Vettee, ætat. 62, a German by birth, entered hospital July 30. Has been at the Mine Banks for the last year. Four weeks ago he was attacked with a chill, followed by fever, which went off eight days since. He has had, from the first, diarrhœa, two or three fluid green stools daily, pain in his head, buzzing noises in his ears, and tympanitis, but no epistaxis, no vomiting, nor pain over abdomen. At the time of entrance, he had pain in his head, and buzzing noises in his ears, but no fever; skin cool, and pulse 72. Has had no stool for the last two days, but six the day preceding. Slight pain in right iliac region; moderate tympanitis; tongue glazed in centre with a brown streak. Complains of great weakness and somnolency. There is a subcrepitant râle at the bottom of both lungs behind, but no rose spots nor sudamina. He continued in nearly the same condition up to Thursday night, when his pulse began to fail, and he grew delirious. Gurgling could be detected in the right iliac fossa, and sordes appeared on his teeth. He now relapsed into a somnolent condition, and expired on Monday morning.

Autopsy ten hours after death.

Heart.—Softened; lining membrane pale.

Lungs.—Slight bronchitis at base.

Stomach.—Somewhat contracted, and contained about ℥v of a yellowish-green fluid. At pyloric end the mucous membrane was thickened and softened, of a slate colour, and presenting a mammelonated appearance. A few of Brunner's glands were very perceptible. The duodenal mucous membrane was softened, and of a slate colour. Some of Brunner's glands elevated. Lower part of ileum injected. Peyer's patches perceptible.

Spleen five times its natural size, softened to a pulp, of a bluish-black colour.

Liver.—One-third larger than natural, its surface presenting an ashy, bronzed appearance, internally reddish-brown; cut surface polished, and the two colours commingled. Its right lobe so softened that the finger penetrated it with ease.

Gall-bladder twice its natural size, and distended with dark bile, resembling molasses.

Mesenteric glands.—Healthy.

Case III.—Patrick M'Cormick, ætat. 40, entered the hospital on the night of August 19th, in a nearly comatose condition. Extremities perfectly cold; some little heat about his head; pulse quick, but very feeble. We afterwards learned that he had been working in Alexandria; that four days previous, he had had a severe headache and convulsions, and also a chill, three or four times on alternate days, but does not remember any fever. Stimulants were applied, which after a time brought on reaction. The patient slept well, and appeared better in the morning. Sulph. quinine was given through the day. Pulse 90, quick, and full; tongue covered with a thin, pale, white coat. He complains of no pain on pressure over any part of abdomen. Through the day he had two loose stools.

August 21st. Patient is not so well; slept badly; a good deal of stupor,

and a dull expression of face. Pulse 104, small, quick and feeble; skin hot; sordes on teeth; tongue covered with a thick light fur, with red edges. No stool during the night. During the visit a perceptible change occurred. His pulse sank, his skin grew cold, and covered with a sticky perspiration. This lasted a short time, when his pulse again rose, and his skin became hot. Quinine, blue mass, morphia and camphor were given every hour. The next morning the patient was evidently sinking, and in spite of stimulants he expired at 12 P. M.

Autopsy eight hours after death.

Body not emaciated; face and breast, with conjunctiva, tinged yellow.

Lungs.—Healthy; three oz. of serum in pericardium.

Heart.—Muscular substance softened; a ring of vegetations at base of mitral valve. Lining membrane paler than natural.

Stomach.—Contained a thin fluid, of a greenish-yellow colour; cardiac mucous membrane injected, of a bright red colour, but not softened. At pyloric end, of a dull slate colour, thickened and softened. Brunner's glands very prominent in the first six inches of duodenum.

Ileum.—Slightly injected at ileo-cæcal valve. The mucous membrane thickened, and softened over one of Peyer's patches, which was distinct.

Spleen six inches by four, of a bluish-slate colour; softened to a pulp, and crepitates between the fingers.

Liver.—Very much softened. Externally right lobe of a bronze slate; left lobe of a bluish-slate colour. Cut surface polished, and the two colours commingled. Right lobe very much softened.

Gall-bladder distended with a dark fluid resembling molasses.

Case IV.—Joseph Holler entered the hospital from the Mine Banks, August 23, in a comatose condition. We afterwards learned that he had been sick for six days, having had a severe chill, followed by fever, every other day, and that he had several times vomited matter of a greenish colour. At the time of his entrance, his breathing was laboured, with a full tense pulse of 180, and his body covered with a profuse perspiration. He was immediately bled in the sitting posture to ℥vj, when his pulse became so feeble that it was necessary to close the orifice. His pulse soon returning to its former strength and frequency, ℥viij were abstracted by cups to the back of neck. Quinine, brandy, &c., were given by injection; ice to his head, and his body rubbed with dry capsicum. Under this treatment some reaction was produced; his pulse fell to 150; he expressed himself as better, but complained of great pain over the epigastrium, as evidenced by continually placing his hand there, and wincing when pressure was made. Soon after he commenced to sink; his pulse rose so that it could not be counted; breathing laboured, 48 in a minute; and at three o'clock he expired.

Autopsy six hours after death.

External appearance.—Joints rigid, body fleshy; surface of a decided yellow tinge, particularly body, neck and conjunctiva.

Head.—Membranes in a healthy condition, except some adhesions of dura mater to the calvarium. Substance of brain injected; the medullary portion speckled with small pink spots.

Thorax.—About ℥iij of fluid in the pericardium. The substance of heart softened, and lining membrane pale. Some old adhesions of pleuræ; parenchyma of lungs healthy.

Abdomen.—Large intestines distended with flatus.

Ileum.—Peyer's patches very distinct; some injection in the lower part; mucous membrane not softened.

Duodenum.—Mammelonation of mucous membrane; glands of Brunner perceptible, and slightly enlarged.

Stomach contained ℥ij of a yellow-coloured fluid; mucous membrane of the cardiac cul-de-sac injected, but not softened; at the pyloric end, mammelonated, and thickened.

Liver.—Externally of a slate bronze colour; substance softened, particularly the right lobe; cut surface polished, and the two colours commingled; about one-third larger than natural.

Gall-bladder not distended, containing a grumous molasses-coloured fluid.

Spleen five times its natural size, of a dark purple colour, and softened to a pulp.

Case V.—Jno. Coonman, ætat. 35, a German, entered the hospital Sept. 7, in a nearly comatose state. Supposing him to be suffering from the effects of drink, an emetic was prescribed. In the evening of the same day, after having vomited a greenish-coloured fluid, his condition was as follows. His mouth and fauces filled with a frothy mucus, which he was unable to get rid of by vomiting, and which threatened to strangle him; tongue moist, and covered with a yellowish-white fur; skin moist and hot; pulse full and bounding, 120 in the minute. No evidence of pain on pressure over any part of abdomen; no delirium, but stupor very marked; pupils contracted; sibilant and sonorous râles over all parts of chest. Sulphates of zinc and of copper were given without effect, and afterwards carb. of ammonia and brandy. He was then set in the erect posture, and bled ℥x, with mustard plaster to trachea, under which his breathing became easier. Sulphate of quinine, brandy and carbonate of ammonia through the night. In the morning the patient was much improved; got up, and arranged his bed; said he came from the Mine Banks; had been sick a week, and was taken with a chill, and vomiting. Still very stupid; tongue coated, and yellowish-white; skin hot; pulse 108. This day and the next he remained nearly the same.

Sept. 9th (night). Found the patient lying on his back, eyes closed, perfectly comatose; hands, when raised, fall like inert masses; breathing very laboured, and stertorous, 50 in the minute; râles throughout the whole of his lungs; skin moist and hot; pulse full and bounding; ℥xx of blood were abstracted without the slightest effect on his pulse. Another vein was opened shortly afterwards, and ℥xxij taken. His breathing became less laboured, and slower; pulse had still considerable strength; patient comatose; pupils natural. Blister to nape of neck and abdomen; quinine, brandy and carb. ammon. through the night.

10th. Patient sensible, but stupid; skin hot; pulse better. Condition on the whole much better than the preceding night. Râles still continue. Quinine to-day, and the day following. Same state continues, and no distinct remission observable in the fever.

11th (night). Another well-marked congestive stage; symptoms like the preceding, but much aggravated. Pulse still frequent, but had lost its strength; tongue black in centre, and dry; ʒss doses of quinine were given by mouth and anus. He died twenty-four hours after the last attack.

Autopsy fourteen hours after death. *Joints* very rigid. Trunk, face and conjunctiva tinged with yellow.

Brain.—Membranes natural, except pia mater, which was infiltrated

with a turbid, yellow serum; cerebral substance injected; red points very perceptible. About ℥ij of serum in cavity of arachnoid.

Thorax.—Heart softened; internal membrane pale. Bronchial tubes filled with a frothy serum, and mucus. Mucous lining intensely injected.

Abdomen.—Peyer's patches perceptible in ileum. *Stomach.*—Bright red injection at cardiac end. Pyloric end of a dark slate colour; mucous membrane softened, and mammelonated; duodenal mucous membrane slate-coloured. Brunner's glands very perceptible.

Liver.—Slightly enlarged. Of a slate bronze colour externally, internally the two colours commingled. Substance softened, particularly right lobe. Cut surface shining. Gall-bladder distended with a grumous fluid, like molasses.

Spleen.—Four times larger than natural, of a dark blue colour, softened to a pulp.

Case VI.—Andrew Shultz, ætat. 42, entered hospital from the Mine Banks, September 9, 1844. Has had fever and vomiting for more than a week, but no chill as well as he recollects. For three days has been half comatose. At present he lies on his back. Speaks with difficulty, very averse to answering questions; prostration great, much emaciation; tongue coated yellowish-white; body covered with cold clammy sweats; pulse 105, and feeble; remarkable fullness in lower part of right lung, and want of respiration. No pain over stomach, liver, or spleen; abdomen much sunken; applied blisters, and gave calomel, quinine, carb. ammonia, and camphor, &c. He remained in nearly the same condition, gradually becoming more prostrated, and his tongue blacker, until four days after his entrance, when he died. No remissions were observable.

Autopsy eight hours after death.

Head.—Membrane natural; cerebral substance injected; red points quite numerous. No serum in ventricles.

Chest.—Pleuritic attachment in right side. Lungs healthy, except slight emphysema.

Heart.—Substance softened. Lining membrane pale.

Liver.—Larger than natural, pushing up the diaphragm, and compressing the lungs; externally slaty bronze; right lobe much softened. Cut surface presents a shining appearance, and the two colours are commingled. In the substance of right lobe, about an inch below upper surface, there was a small cavity, with circumscribed walls, lined by a membrane about the size of a filbert, containing a clot of dark blood.

Gall-bladder.—Enormously distended, containing a fluid resembling molasses.

Spleen.—Five times its natural size, dark purple, and softened to a pulp.

Stomach.—Grayish slate at cardiac end, and mucous membrane softened; mammelonated at pylorus.

Duodenum.—Brunner's glands much developed, also Peyer's patches in ileum.

Colon.—Injected, and of a dark slate colour.

External appearance.—Joints *rigid.* Yellow tinge over whole body.

One point of interest in this case is the clot and cavity found in the right lobe of the liver. We learned that this man had had a similar attack of congestive fever in the hospital twelve months since. This would show

that the disease can occur twice in the same individual. How far can we consider this cavity and clot the remains of a previous softening?

Case VII.—Thomas Moore, ætat. 45, entered hospital September 17, from the Mine Banks. Was taken on the 9th with a chill, followed by fever and a chill on the 10th. No vomiting, cough, or diarrhœa. Has taken calomel and jalap. When he entered he was delirious; pulse full and strong, 124 in the minute; and hot skin. Next morning pulse 92, and soft; no delirium, but great prostration. A decided yellow tinge over body.

(5 o'clock P. M.)—Patient comatose; pulse strong and full; contracted pupils; hot skin, and profuse perspiration. He was bled to ℥xxiv in the sitting posture, with but little effect on his pulse, although his respiration, which was stertorous, became easier. Quinine in ʒi doses, carb. ammonia, and blisters were given, and continued through the night. But the collapse increased, his pulse became imperceptible, extremities grew colder, and he died at 8 A. M.

Autopsy eight hours after death.

Joints flexible; a decided yellow tinge over whole body.

Head.—About ℥iii of serum between dura mater and arachnoid. Arachnoid slightly congested. Substance of brain healthy.

Chest. Bronchial tubes slightly reddened. Heart softened, and its lining membrane paler than natural.

Abdomen.—An effusion of blood into the cavity of peritoneum of about ℥xii, which had the appearance of thick tar. Omentum and peritoneum intensely engorged.

Stomach.—Cardiac end softened and injected; mammelonated at pylorus. Brunner's glands perceptible in duodenum, and Peyer's patches in ileum.

Liver.—Externally of a light brownish slate. Cut surface shining and of a slaty bronze. The two colours commingled. No exudation on pressure. Right lobe much softened. Whole organ about one-third larger.

Spleen.—Enlarged to five times its natural size, dark purple, and softened to a pulp.

Case VIII.—Joseph Smith, ætat. 36, entered hospital October 1st, 1844; comes from the Mine Banks; has been sick fourteen days; has had chills and fevers in the meantime, sometimes every day, at others every third day; has as yet taken no medicine. October 2d, at 11 o'clock, A. M.—He presents the following condition: lies on his right side, every muscle in his body quivering, skin and extremities warm and dry; pulse 160, feeble and quick; body, face and conjunctiva tinged yellow; breathing rapid and laboured, harsh respiration; tongue coated yellowish white, moist and clammy; no pain over liver, stomach, or spleen; bowels open; pupils contracted; perfectly sensible; (Æther and laudanum, brandy with carb. ammon., mustard plasters, &c.) In about an hour reaction came on; pulse became full and bounding, and vibrates with a peculiar thrill; skin hot and dry; tongue now brownish-yellow and very dry; still breathing rapidly, but less laboured. (Quinine in large doses, by mouth and anus.) 4 P. M.—Patient sweating profusely; pulse still full and vibrating; marked dullness in lower part of right lung; subcrep. râle diffused through both lungs, with mucous gurgle in larynx; tongue now moist and sticky. 6 P. M.—Condition about the same; mucous gurgle and râles continue; pulse lost its thrill, but still full and bounding; skin hot, with copious sweat; tongue again very dry, and dark yellow;

disposition to somnolency; pupils contracted and insensible to light; patient sensible when roused. (Quinine, now combined with calomel.) 8 P. M. —Condition now seems much worse; mucous secretion from his larynx threatens every moment to strangle him; sulphates of zinc and copper were given to relieve this condition, but had no effect. Skin still warm and moist; pulse full, but rather compressible. In spite of stimulants, which were constantly administered, he died about 11 P. M.

Autopsy eighteen hours after death. Limbs rigid, general yellow hue over surface, conjunctiva yellow.

Head.—Not examined.

Chest.—Some old adhesions between pleuræ. Bright red injection of bronchial and laryngeal mucous membrane. A large amount of frothy serum exudes from the cut surface of lung, and very abundant in smaller tubes. Lower half of right lung compressed by the enlarged liver, which presses up the diaphragm.

Abdomen.—*Liver* considerably enlarged, weighs five pounds; externally of a dark bronze and slate colour, internally the two colours are commingled; cut surface shining; right lobe particularly enlarged and very much softened. Gall-bladder moderately distended, containing bile of a dark straw colour. *Spleen* very much enlarged, six or seven times its normal size; weighs three pounds, softened to a pulp and having the colour and consistence of dark venous blood. Stomach distended with gas, containing about ℥viij of darkish yellow fluid, mucous membrane injected at cardiac and splenic portions; at pyloric orifice it was softened, thickened and of a dark slate colour, somewhat mammelonated. In the duodenum the glands of Brunner were decidedly enlarged. Peyer's patches very perceptible in the lower part of ileum, but healthy in every respect.

Case IX.—Edward Naubauer, a German, ætat. 35, entered hospital October 3d, 1844, comes from Mine Banks; has had chills and fevers for a month. At present he is very anæmic, weak, and has pain over stomach; none over liver or spleen; bowels constipated; tongue smooth, and cold, not furred; countenance sallow; no headache; respiration healthy; skin cool. (Treated in the usual manner: stimulants, hot bricks to feet, &c.) Two days after this he had another distinct and well-marked paroxysm, cold extremities, full pulse, &c., lasting about an hour, and treated as before. After reaction took place, quinine was given in very large doses. On one day so much as ℈j every two hours, by *injection;* blisters were also applied over the abdomen, and at the back of the neck; he had no other distinct paroxysm; but on the fifth day from his entrance he became very delirious,—struck at the nurses, attempted to leave his bed; cups were applied to the back of the neck, which relieved this condition for the moment; after this he became comatose, had subsultus, &c. &c. Some hours before death the conjunctivæ became *intensely injected,*—mucous rattle appeared, and he died on the sixth day after his entrance.

Autopsy ten hours after death. Surface of body and conjunctivæ had a yellowish tinge. *Joints rigid.*

Head.—Slight serous effusion in cavity of arachnoid. Pia mater slightly injected and in some portions infiltrated with turbid milky serum. Substance of brain not softened, but presents red points on its cut surface.

Chest.—*Lungs* perfectly healthy. Heart contained large fibrinous concretions in each ventricle. Substance very slightly softened.

Abdomen.—*Liver* externally of a mingled *bronze* and *slate* colour. *Cut*

surface red and shining, some engorgement, blood exudes on pressure, very much softened, right lobe especially, two colours commingled,—organ weighed five pounds. Gall-bladder moderately distended, contains a dark grumous fluid like molasses.

Spleen.—Twice its natural size; when cut into, a reddish substance exudes; its texture not softened. Weighed one pound.

Stomach.—Contains about ℥iv of a dirty yellowish green fluid. Mucous membrane partially injected, and softened at pyloric orifice. Brunner's glands enlarged at the latter portion, and also in the duodenum.

Case X.—Edward Howard, ætat. 35, an Irishman, from the Necks about the mouth of the river Patapsco, a malarious district, came into the hospital Oct. 11, 1844, at 7 P. M. Of his previous history nothing could be learned but that he had been sick two or three weeks before with fever and occasionally chills. At the time of his entrance he was perfectly comatose; eyes closed, pupils turned upwards and do not respond to light; extremities cold; breathing almost imperceptible; pulse very small and frequent. Stimulants were administered by mouth and anus, his whole body rubbed with dry capsicum, and a blister applied to the nape of the neck. After the lapse of an hour another to the abdomen. These means were continued some hours, when partial reaction came on; but although he could speak he could give no account of himself. His tongue was covered with a dark coat and very dry, and he complained of pain on pressure over stomach; none over liver or spleen. Some doses of calomel and a solution of quinine, but he commenced sinking the next morning, and expired about 5 o'clock, P. M. The following note was taken on the case about an hour before death: patient lies on his back; skin warm and covered with a clammy perspiration; breathing rapid and stertorous, with frequent hiccup; pulse frequent and scarcely perceptible; pupils contracted; patient perfectly insensible.

Autopsy twenty hours after death. Body and conjunctivæ tinged yellow. Joints rigid, muscles firm and dark.

Head.—Pia mater injected slightly. Cut surface of cerebral substance dotted with red points.

Chest.—Some old adhesions. No organic lesion in lung. Mucous membrane of larynx and bronchia injected. *Heart* flabby. Its substance, particularly the walls of left ventricle, softened. Lining membrane pale.

Abdomen.—*Liver* rather larger than natural. Numerous adhesions between it and walls of belly. Externally dark bronze and olive; internally redder, and much softened, cut surface shining, but the two colours were distinguishable. *Gall-bladder* moderately distended with dark grumous bile. *Spleen* enlarged two and a half times its usual size, and softened. *Stomach*, mucous membrane throughout of a dark slate colour and softened. Mammelonated at pyloric end. Brunner's glands perceptible. Mucous membrane injected, but not softened over Peyer's patches.

Case XI.—John Coyle, ætat. 45, from Mine Banks, entered hospital September 21, 1844; says he had chills and fevers two or three weeks since; two days ago he had again another chill succeeded by headache, fever and vomiting; has been drinking freely for some time past. When seen Saturday morning, his state was as follows: lies on his back; face and eyes red and flushed; skin hot and dry; pulse 124; tongue coated yellowish white, edges and tip red; tenderness on pressure over right hypochondrium, not so

over spleen or stomach; three or four stools daily, black; complains of great headache; has cough; lower part of right lung dull on percussion in front and behind; diminution of respiration in same part; slight sonorous râle in upper portion of same lung; complains of great oppression in lower part of this lung; left side normal; (cups over liver and stomach and along the upper portion of spine: calomel grs. xx at once, also small doses of calomel, ipecac. and quinine, every two hours.) 8 o'clock P. M., symptoms about the same; medicine operated freely; headache still, and vomiting of green bitter bile. 22d, 9 A. M. Skin dry; frequent passages during the night; pulse full and about 100; tongue furred yellowish-white, edges red; right lung in same condition; patient feels about the same; still has cough but expectorates nothing; headache diminished, (calomel 3ss; the other treatment continued.) 23d, and 24th, and 25th. His symptoms are about the same; he constantly complained of pain and oppression in right lung, the lower part of which was still dull on percussion; no râles, however, were yet detected. 26th.—Oppression very great in right lung; pulse 100; auscultation detects a friction sound in lower part of right lung behind, also subcrep. râle in middle and upper part behind; dullness now over the whole lung, more marked in front; bronchial almost tubal blowing in some parts of the lung; patient coughs frequently, expectoration of a prune juice colour; bowels open three or four times in the twenty-four hours; tongue found yellowish in back part. (Cups and blisters, calomel, quinine and ipecac.) 27th.—No alteration in symptoms; expectoration still copious, same colour; yellow coat disappeared entirely from tongue; pulse upwards of 100, and rather feeble. 28th.—Patient evidently declining; expectorates copiously muco-purulent matter of a dark chocolate colour; breathing rather laboured; pulse weaker and quicker; (stimulants of carb. ammon., quinine, wine whey, blisters, &c., were ordered). He died two hours after the visit, sensible to the last.

Autopsy twenty-two hours after death. Joints rigid, ecchymosed spots in depending portions of body. *Head.*—Not examined.

Chest.—The whole of right lung in the third stage of pneumonia; pulmonic abscesses occupy upper and middle lobes; bands of vessels and cellular tissue traversing the cavity; no tubercles were discovered. The left lung presented a remarkably corrugated appearance in its upper lobe, seeming like a cicatrized cavity; on cutting through this portion it almost creaked under the scalpel, and seemed to be composed of hard fibrous tissue.

Abdomen.—*Liver* externally of a light brownish pink, internally darker, and the two colours commingled, its tissue softened throughout. *Gall-bladder* not distended, and containg a light yellow and thin fluid. *Spleen* neither enlarged nor softened. *Stomach.*—Mucous membrane very much injected, of an ashy slate colour in some portions, and not softened. *Duodenum.*—Brunner's glands enlarged. *Ileum.*—Peyer's patches perceptible; mucous membrane injected over them but not softened.

Case XII.—Henry Stretchel, a German, ætat. 32, came into hospital September 20th, 1844, with remittent fever, with which he had been sick ten days. After two weeks convalescence was so far established as to enable him to walk about the hospital. A few days after this a severe attack of dysentery came on, which, owing to his debilitated condition, terminated fatally in twenty days.

Autopsy ten hours after death. *Head* not examined.

Chest.—Lungs tuberculous in their upper lobes. Heart.—Softened. *Abdomen.*—*Stomach.*—Mucous coat softened throughout. Bright red injection near pylorus. Some of Brunner's glands very perceptible in commencement of duodenum. Small intestine not examined. *Colon.*—Numerous ulcers throughout, increasing in size and number as we approach the rectum. Some of them extend to the peritoneal coat. *Liver.*—Of a natural size, of a brownish yellow colour, resembling incipient cirrhosis. Hypertrophy of yellow substance, softened in right lobe; when torn has a granular appearance. *Gall-bladder.*—Moderately distended with lightish coloured fluid bile. *Spleen.*—Rather larger than natural; reddish substance exudes from cut surface, disappears under a brisk stream of water. Its texture not softened.

Case XI is an interesting one in this point of view, viz., that he came from an extremely malarious district, and presented, moreover, all the symptoms of remittent fever when he entered the hospital. Could this possibly have been a case of pneumonia, *modified only* by the malarious district from which he came? There is certainly a most remarkable difference betweeen this liver and that of Case XII, though both present the characteristic element, viz., softening. Should we not expect to find a difference between the two, considering the relative period from the commencement of the disease at which the autopsies were made?

[*Remarks.*—The number of the cases in this series is not large enough, nor is the history of the symptoms in them minute enough, to serve as the groundwork for a full description of remittent fever. But the cadaveric appearances were so very uniform, and correspond so closely with those described by previous observers, as to acquire a degree of importance entitling them to a separate analysis. We shall not, however, attempt more than to bring together the most important and similar features of the several cases. The 11th and 12th cases we shall not include in this summary, the one appearing to be a case of pneumonia, occurring some time after an attack of intermittent, or possibly remittent fever, and the other a case of dysentery coming on during convalescence from remittent fever.

Brain.—This organ was examined in seven out of the ten cases, and in *all* of them, either its membranes or its substance was found injected, and in two of them there was moderate effusion in the cavity of the arachnoid.

Lungs.—In one-half of the cases, the lungs are described as healthy, and in the other half there was more or less intense redness of the bronchia, and, in one case, of the larynx. But this condition does not seem to have been accompanied with cough during life, and its inflammatory nature may therefore well be doubted.

Heart.—The heart was examined in nine cases, and in *all* of them its muscular tissue was found to be more or less *softened.* The only one in which this condition was not remarkable, (Case IX,) also presented large fibrinous concretions in both ventricles. The patient had been "very deli-

rious," and some portions of his pia mater were found "infiltrated with a turbid milky serum."

Stomach and Intestines.—The stomach generally contained from two to four ounces of a dirty yellow fluid. The mucous membrane was found to be injected in seven out of the nine cases in which it was examined, and in three of them intensely so. In five cases it was softened near the cardiac extremity, and in four near the pylorus, where also it was for the most part grayish, thickened and mammillated. In every instance Brunner's glands were unusually developed, and in three cases to a remarkable degree. The glands of Peyer were constantly healthy, but generally visible.

Spleen.—In *all* the cases, without exception, the spleen was very much enlarged, being from two to six times larger than natural. In one instance it weighed three pounds. In nine out of ten cases it was very soft or pulpy, and of a bluish black colour.

Liver.—The size of the liver was noted in nine cases, in all of which it was unnaturally large. Its consistence was very much diminished in ten cases, in eight of which the right lobe was the principal seat of the alteration; in one the left lobe was chiefly affected, and in the remaining one the whole organ was softened. In *all*, the colour of the liver was either bronzed, or like that of slate; the surface of a section was polished or shining; and in every instance but one, the different colours of its component parts could not be distinguished. In seven out of eight cases in which the state of the *gall-bladder* was recorded, this receptacle was *distended* with thick grumous bile, resembling molasses. In the eighth case it was moderately distended with straw-coloured bile.

From this summary we may now conclude that the cases of remittent fever under examination presented the following lesions uniformly; to wit, 1st. Congestion of the brain; 2d. Softening of the heart; 3d. Softening of the mucous membrane of the stomach; 4th. Softening of the spleen, with enlargement; 5th. Softening of the liver, with enlargement, and a bronzed or slate-like hue of that organ, and distension of the gall-bladder with inspissated bile.

Of all these morbid alterations the only one peculiar to remittent fever is that of the liver, which was for the first time pointed out, and so well described by Dr. Stewardson, and which the present series of cases, taken along with those previously observed by himself and by Dr. Swett, justifies him in regarding as the *anatomical characteristic* of the disease. But it does not stand alone. The spleen, the stomach, the heart, and the brain, are all diseased, and what is still more remarkable, they, with the liver, have one lesion in common, viz., softening. The hepatic alteration is evidently not that to which the symptoms of remittent fever can be referred as a cause. Our knowledge of the phenomena attending inflammation of the liver on the one hand, and of the close analogy existing between remittent fever and intermittent fever (in which the liver is unchanged), on the other, for-

bids such a supposition. The bronzed and slaty hues of this organ are pretty certainly due to the congestion of its biliary ducts with bile, and of its veins with blood, so that its softening only remains to be studied, as well in its origin as in its effects. But this softening, as already remarked, is common to it and to several other organs. The question is therefore enlarged, and we have next to inquire to what ought the diminished consistence of these several organs to be attributed? Here are two parenchymatous structures, (the liver and spleen,) a mucous membrane, (of the stomach,) and a muscle, (the heart,) softened in the same disease. It will not be pretended that the change is due to inflammation; for the symptoms of this condition, as it occurs in the several organs, are wanting. Is it owing to a cause like that which produces softening in typhus fever, and in all diseases of a typhoid type? in one word, is it due to an alteration of the blood?

At this point our facts fail; for in most of the reports of dissections in remittent fever, little or nothing is said of the state of the blood, and but little of the consistence of the solids. Dr. Stewardson, indeed, suggests "that an altered condition of the blood, combined, perhaps, with some softening of the tissue" of the lungs, may have given rise to an effusion of bloody serum noticed by him; he also notes the "flabbiness" of the heart in some instances, and the absence of firm fibrinous coagula in all, and remarks that "it is perfectly evident that the blood in this disease is the seat of morbid changes which deserve attention;" and, again, that to the state of this fluid "we must no doubt look, in part, for an explanation of the fatal termination in some cases." These observations and surmises are strengthened by the above series of cases; for in them softening of the liver and heart especially, appears to have been more uniformly observed by Dr. Frick than it had been by either of the gentlemen whose names have been mentioned before. But no certain inference can be made from the materials which now exist. Had observers recorded fully all that their cases presented, instead of so much, only, as appeared to bear upon a single point of their history, we should not now have to leave unanswered the main questions relating to the pathology of remittent fever. We therefore call upon all such as have the opportunity to study this disease, to furnish complete accounts of what they witness, detailing minutely all the symptoms that occur during life, and all the changes detected after death, not contenting themselves with confirming previous observations, but rather endeavouring to add some new truths to those already established. This is a subject of serious interest, for on its proper investigation must depend the lives of hundreds every year. A study of the pathology of remittent fever will not, indeed, lead us *directly* to a successful plan of treating the disorder, but *indirectly* it will so lead us, by showing its resemblance to some class or classes of disease of which the therapeutic management has been settled by experience. It may, it probably will, show us that the malady is not everywhere identical, and it will distinguish the cases to which one, and those to which

another, treatment is applicable. It will also teach us what are causes, and what effects, in the several links of its morbid chain of symptoms and lesions, a knowledge which, at present, we are very far from possessing. The points to which we beg leave earnestly to direct the attention of observers, are the following: 1st. The precise circumstances of the commencement of an attack of remittent fever, including external relations, and symptoms properly so called. 2d. The state of the blood in the several stages of the disease determined according to the method pursued by Andral and Gavarret, and its condition in the vessels and heart after death. 3d. Chemical analyses of the blood, urine and bile; and 4th. The consistence of the solids, especially of the brain, lungs, heart, liver, spleen and kidneys. A. S.]

ART. V.—*On the Connection between Puerperal Fever and Epidemic Erysipelas, in its origin and mode of propagation.* By SAML. KNEELAND, JR., M.D., of Boston.

FOR the solution of the question, whether puerperal fever has any connection with epidemic erysipelas in its origin or mode of propagation, and for the proper explanation of our views, it will be necessary to determine what is meant by the terms puerperal fever and erysipelas. Let us accordingly make a brief statement of the opinions of different authors, from Hippocrates to the present time; and see, if, by comparing the phenomena of the various epidemics, we cannot bring this collection of separate and even opposite opinions into something like order and agreement.

Hippocrates, in his epidemics, gives several observations of puerperal fever; but he makes it depend on an inflammation of the uterus, produced by a suppression of the lochia, or a difficult labour—this opinion has been followed by Galen, Celsus, Paul of Egina, Albucasis, Mercatus, Avicenna, Mauriceau, Sydenham, Boërhaave, Fred. Hoffman, &c. Others accuse a metastasis of the milk—as Willis, Puzos, Levret, Sauvages, Van-Swieten, Doublet, Vigaroux. Peu, White, Tissot, Alph. Leroy, Manning, have referred it to a degeneration of the fluids, and have considered it analogous to adynamic and putrid fevers—Stoll, Finck, Doulcet, to an ataxic malignant fever—Walsh, Ant. Petit and Selle, to the accumulation of bilious matter in the abdominal viscera—Hulme, Leake and Delaroche, make it out the result of inflammation of the intestines, the mesentery, or the epiploon.

In 1776, Hunter perceived that the peritoneum frequently presented alterations, in the abdominal affections after delivery, while the organs covered by it were in a healthy state; this opinion was followed out by

Johnston in England, and Walter of Berlin. Since that time (1785), Laennec, Gasc, Pinel, Bichat, Gardien, and Broussais, have considered as proved, that puerperal fever is nothing else than an inflammation of this serous membrane. Here, again, a dispute arose: some, as Pinel, considered the peritonitis as primitive, while Chaussier, Chomel, and Velpeau, maintained that it was almost always consecutive to inflammation of the uterus.

During the golden age of morbid anatomy, when every disease was named from the traces it left behind it, and when the most enlightened attributed every affection to a morbid condition of the solids, the candid, thinking observer was sorely puzzled at the contradictory statements of authors. From the extremes of humoralism and solidism, the opinions of the medical world began to approach the "juste milieu:" like the quarrel of the members in the fable, the dispute between the rival theories gradually ceased, and it was mutually acknowledged that they formed one great whole, the solids and the fluids, every modification of one being followed by a modification of the other. This most important reconciliation led authors on puerperal fever, among other diseases, to the conclusion that no exclusive theory can explain the infinitely varied phenomena of disease. Physicians began to ask themselves how could be explained this complicated affection, which at one time took the form of peritonitis; at others, of metritis, phlebitis, purulent infiltration and gangrene of the different abdominal viscera. Of late, the opinion is gaining ground, that the proximate cause of puerperal fever is an alteration of the blood, the nature of which is at present unknown; and that the peritonitis, the metritis, &c., are secondary accidents depending on this one cause.

Some, following the aphorism of Stoll, "nulla febris est, quæ non aliquando in puerperam cadat," maintain that there is no such thing as an essential puerperal fever; that any fever, which may seize a woman in labour, will take on a type according to the prevailing epidemic, or the peculiarities of each individual constitution; that the inflammations which supervene should be treated precisely as if the woman had not just been delivered: this is the opinion of M. Capuron, among others, as regards sporadic puerperal fever. It is not an uncommon opinion to consider the epidemic form as a common fever, with symptomatic peritoneal inflammation; and the sporadic variety, an idiopathic inflammation modified by the peculiarities of the puerperal state. The opinion of Dr. Armstrong is nearly this, though he considers it sometimes, as does Professor Osiander, as a genuine typhus fever occurring in the puerperal state. Burns thinks it an inflammation of the peritoneum, conjoined with the operation of some contagious, debilitating poison. Ferguson makes four forms of the fever, the peritoneal, gastro-enteric, nervous, and complicated, all of which he derives from the same source, a vitiation of the blood; the causes of this vitiation being, according to him, peculiarly rife after child-birth.

Allowing, then, that a vitiation of the blood is the cause of the various

forms of this disease, different theories have been entertained as to the manner in which it is effected. Some have considered the pus absorbed from the peritoneal cavity is the poisonous agent: Ferguson maintains that it is not vitiated from pus alone, as pus is not always found—and besides, healthy pus (for this was considered the result of a common inflammation, as may happen in man), has not the action on the blood ascribed to it by many. M. Andral has shown, that this fluid, in its natural condition, is harmless. Eisenmann and Smith reduce the study of this disease to the study of the infection of wounds. Regarding the puerperal woman as a wounded person who has undergone a grave surgical operation, they consider the surface of the uterus, where the placenta was inserted, as an amputated stump, and therefore subject to the absorption of acrid, putrid lochia, giving rise to a contamination of the blood: this opinion they support by experiments made on animals, of injecting their putrid lochia into the uterus—in this case, the vitiation would originate from the uterine surface, causing there a local inflammation, gradually extending to other tissues in the neighbourhood. That this exclusive opinion is not true, may be seen from the numerous cases of puerperal fever on record, where death has taken place before any anatomical lesion, or local alteration has had time to take place; the patient has often died a few hours after delivery, and pus has been found infiltrated in the sub-peritoneal cellular tissue, and in various parts of the pelvis, showing the action of a morbific poison, which entered the system before the evacuation of the uterine contents. To such cases, M. Voillemier (account of the Paris epidemic of 1838), gives the name of pyogenic fever of lying-in-women. The opinion of the present French school is, that it consists in a tendency to the rapid formation of pus in all parts of the body, from contamination of the blood by an unknown, specific poison, acting independently of any affection of the uterine system, and even proving fatal without leaving any perceptible change of their textures.

We must then allow, that local inflammation should be considered as symptomatic of a general constitutional affection, and not as the essential cause of puerperal fever; in other words, that this affection is an idiopathic, essential fever, which may be complicated by peritonitis, metritis, &c., just as pneumonia, pleurisy, or bronchitis, may complicate continued fever. That it is not a simple inflammatory fever, we judge from the following reasons: the circulation in inflammatory fever is excited from the commencement; in puerperal fever, the pulse is weak and thread-like—in the latter, as in all idiopathic fevers, there are more or less typhoid symptoms, deranged secretions and excretions; irregular action of the nervous system; alteration of the blood, as shown by the rapid decomposition of the dead; obstinate resistance to treatment, especially the antiphlogistic, which should triumph over inflammation; and a limited duration. That it does not depend on the ordinary causes of inflammation is evident,

because, after a certain absence, it suddenly appears, and disappears again, without our being able to give a plausible reason from surrounding circumstances. But inflammation may be present at the same time, considerably modified in its march, symptoms and terminations, as will be seen hereafter. That the fever is not merely secondary to the abdominal inflammation, may also be inferred from the great disproportion between the severity of the symptoms, or the almost uniformly fatal termination, and the lesions found after death; which last are much less extensive than in common inflammatory puerperal peritonitis. While we maintain that the epidemic form is an idiopathic fever, we allow that many cases exist in which the inflammation is primary, and which may be called puerperal fever by those who regard only the state of "puerperality"—thus, peritonitis, metritis, &c., may arise in the puerperal state, which, doubtless, predisposes, by its increased sensibility and irritability, to the occurrence of inflammation from the slightest causes; and these may take a typhoid type, according to the nature of the "medical constitution," and impose on the physician as cases of puerperal fever. But these, we repeat, are not the objects of our present consideration, and should no more be called puerperal fever, because they happen to occur in this state, and in the substance or neighbourhood of the uterus, than pleurisy or pneumonia in the same state. These affections do not assume the epidemic form, and no one ever supposed that they were specific or contagious.

But in calling this affection an idiopathic essential fever, there is disagreement as to the nature of the specific cause, which produces such different forms of disease as regards the organs affected. Is it *sui generis?* or is it identical with some other form of disease? The symptoms, march, and morbid anatomy sufficiently show that it is specific, and not common inflammation; but what is the nature of the specific cause? Many have considered it the poison of typhus, with which many of its symptoms are not at variance; others, unable to refer it to any known form of disease, have pretended the existence of a poison *sui generis*, which opinion prevails extensively in Europe. Of late years, the idea has been becoming more and more prevalent, that this disease is of an erysipelatous origin; and the numerous facts in support of this opinion certainly are of no little weight. Let us examine the relations between this affection and erysipelas, and attempt to show that, by this theory, puerperal fever becomes of much more easy comprehension than by any other: at the same time comparing their similar origin, symptoms, march, and terminations.

What is the nature of this disease, which Travers so aptly calls a "mystery?" This must be sought for in its causes. The supposed causes of erysipelas have varied according to the prevalent medical theory. From Hippocrates to Hoffmann, the humours have played the chief part in this affection. Galen ascribed it to an exceedingly acrid yellow bile. Fabri-

cius of Aquapendente attributed it to a mixture of bile with the blood.—Ambrose Paré called it blood turned into choler, "qui est faict de vraye et pure cholere." After the humoral theories, came Van-Helmont and George Stahl, with the fantastic creations of "archei," and "animism;" the former ascribed it to a burning of the "vital spirit," "erysipelas quoque apostematum maximi ignæum." To come down to more modern times.—Travers considers it a specific erythema, depending on the effort of nature to eliminate some morbific matter, or on a putrescent state of the fluids. Chomel asserts that it is never the result of an external cause; and, if such cause sometimes occurs in its production, it has but a secondary share in its development: it supposes the concurrence of an internal cause, of an unknown particular condition or predisposition. Blandin, on the contrary, says it may be from an external or an internal cause. When the former has operated, the disease is at first purely local, but tends to generalize itself by the passage of the altered fluids over the whole system, exciting a violent reaction and fever; when, however, it arises from an internal cause, the disease, at first general, tends to localize itself, and nature makes a critical effort to get rid of the disturbing element, the febrile action predominating from the beginning. Lawrence says this disease is a common inflammation, connected with a peculiar state of the constitution, in which it tends to spread rapidly and extensively; and that its distinguishing characters depend on the peculiarities of the cutaneous and cellular structures in which it occurs. But, unlike common inflammation, erysipelas has a tendency to creep over the surface of the body, fading in one part as it increases in another; its colour is different, being of a yellowish-red, or the colour of straw; instead of the usual results of inflammation, there is an effusion of serous fluid, with little or no effusion of solid lymph; the accompanying fever is not at all proportioned to the extent of the cutaneous affection, or the intensity of the inflammation; the fever, too, commences before there is any evident external inflammation, showing that it is the reaction of the system against the influence of the specific poison; the functional disturbance is much greater, and the typhoid symptoms more strongly marked—add to these the inefficiency of antiphlogistic remedies, and the inability to excite this inflammation at pleasure, and it must be evident that the system is under the influence of something more than common inflammation, and that the cutaneous phenomena are only a portion of the disease. Dr. Thompson observes, that erysipelas is not a simple inflammation; but that, as in the exanthemata, the state of the skin is merely symptomatic of the fever.

Having expressed the opinion of the specific nature of erysipelas, it will be interesting to inquire if it has any peculiar anatomical seat. Cruveilhier, who maintains that all inflammation, of whatever nature, is a capillary phlebitis, places it in the minute venous ramifications. Ribes is of the same opinion, from the fact that, if an inflamed tissue, mucous, serous or

cutaneous, be examined with a loupe, injected veins are always found; these, he says, may be traced to veins of larger size; because the veins near an inflamed part are more or less developed; and from the accompanying œdema. Ribes and Chaussier say that they have found pus in the minute veins in the peritonitis of lying-in women, which the former considers as an erysipelatous affection. Blandin considers it an inflammation consisting of two elements, inflammation of the papillæ of the dermis, and that of the lymphatics. When the erysipelas is of internal origin, the cutitis predominates; when of external origin, the lymphangitis. According to Velpeau, MM. Ribes and Cruveilhier have confounded this affection with phlebitis, which may accompany it, without constituting it; and M. Blandin has mistaken it for angeio-leucitis.

Like the different theories of puerperal fever, we think these opposite opinions may be explained by looking beyond the post-mortem appearances. Alison (in the work before mentioned), draws a well-marked distinction between *erythematic* and *phlegmonous* inflammation, if the latter expression be allowable. The former tends to spread, with little or no effusion of solid lymph, &c., as has been mentioned before; it cannot be excited at pleasure, and the body appears to be influenced by a specific cause, deranging the vital properties of the blood. We consider, then, erysipelas as an idiopathic essential fever, bearing a certain resemblance to the exanthemata, from which, however, it differs in many important respects; depending on the introduction of a specific poison into the system, (and perhaps its occasional *generation* under favourable circumstances,) but never arising from external conditions alone—this poison generally manifesting itself by *diffuse* inflammation of the integuments; but, from peculiar virulence, or its action on persons singularly disposed to it by epidemic influences, habits of life, or other accidents, frequently showing itself by a *diffuse* inflammation of all parts of the body, particularly the subcutaneous, submucous, subserous, and intermuscular cellular tissue. We do not mean to say that every *diffuse* inflammation is *erysipelatous*, but that *erysipelas* is always *diffuse* inflammation. From its nature it readily spreads, both by continuity and contiguity, and may therefore attack every tissue of the body; every inflammation, while the system is under the influence of this poison, taking on the *diffuse* character. It is, then, of little importance to inquire in what set of vessels is the seat of this affection, except that, perhaps, the prognosis might be somewhat different according to the tissue affected; but, unfortunately, treatment is generally of little use, the disease running its course in spite of all rational remedies. It may be, or it may not be a cutitis, a phlebitis, a lymphangitis. Taking into consideration that, till very recently, these affections were all confounded under the name of erysipelas, it is not surprising that this mystery should have sorely puzzled the medical observer. Perhaps this view of the matter may throw a ray of light upon a subject much in need of being rendered more clear.

Before proceeding to show that erysipelas and puerperal fever originate, and are propagated, in a similar manner, or, in other words, that the latter is sometimes merely an erysipelatous inflammation of different tissues, it will be necessary to prove that these tissues are liable to this specific inflammation; whether this be accepted or not, these facts will stand as proofs that the skin is not alone affected by erysipelas.

As the peritoneum is almost always found affected in puerperal fever, it becomes a question whether serous membranes are susceptible of erysipelatous inflammation. Mr. Lawrence and Dr. Lee say no; but if the vessels which convey the blood to the minute areolæ of the *subcutaneous* cellular tissue may be affected with this inflammation, why may they not in any part of the body where this tissue is abundant, and in the serous membranes, (which are only a condensed form of it, exhaling the same albuminous fluid or vapour)? That a strict communication is kept up between the mass of the blood and the fluid of these membranes is shown by the fact that prussiate of potash, injected into the veins, can be detected almost immediately in the fluid of the peritoneal cavity, by sulphate of iron; so that any poison in the blood would easily spend its force upon this cavity, from any predisposing or exciting cause. It is by no means a modern opinion that erysipelas may attack internal organs; Hippocrates, even, speaks of an internal and an external erysipelas—so also Ambrose Paré. A few cases may be selected in support of this opinion. Dr. Warren, in a case where he removed a scirrhous breast at a time when erysipelas was in the hospital, had his patient seized with all the symptoms of puerperal peritonitis. He mentions that he has seen many die after operations at such periods, without any external sign of erysipelas,—"the disease is constitutional; it may affect the internal organs without affecting the skin, and in such cases is most dangerous." Dr. Alison mentions a case, which happened at the Royal Infirmary, where a young woman, with erysipelas of the breast, miscarried about the third month; soon after the inflammation left its original seat, the abdominal cavity became affected, and all the symptoms of puerperal fever came on, which proved fatal. Dr. Abercrombie speaks of several cases of erysipelatous peritonitis, from transference of the inflammation from the skin or mucous lining of the throat and fauces to this membrane. Facial erysipelas is frequently combined with meningitis; not from continuous inflammation always, as Marotte (*Journal of Practical Medicine and Surgery*), mentions a case where it was undoubtedly a metastasis of erysipelas of the leg. It may also extend by continuity; as, during an epidemic in the wards of M. Dubois, almost all the children died from propagation of the erysipelas along the veins of the cord to the peritoneum. Alison says the *erythematic* inflammation is not peculiar to the skin; it may attack the mucous membrane of the nose, mouth, &c., the fibrous membranes, the subcutaneous cellular tissue, the serous membranes; always with the effusion

of a bloody serum, then pus, with little solid lymph. Mr. Ackerly (*London Medical Gazette*, 1838), observes, that it may attack not only the skin, but the cellular tissue; the mucous and serous membranes of the thorax and abdomen; passing by metastasis to the brain and the viscera; by continuity of surface; commencing in the deep-seated organs without appearing externally. The Germans have long admitted internal erysipelas; J. P. Frank says he has followed it from the greater labia to the vagina, uterus, and bladder; from the face into the pharynx, stomach, and lungs. Selle describes an erysipelas of the tongue; Cullen speaks of erysipelas of the intestinal canal. Mr. Ceely, (*London Lancet*, March, 1835,) speaking of the connection between the two diseases, as observed in the Aylesbury epidemic in the autumn of 1831, says the "puerperal disease was erysipelas of the mucous membrane of the vagina and uterus, extending into the abdomen through the Fallopian tubes, and from them by contiguity and continuity of surface to the parts above described." M. Rayer asserts that it may attack the internal organs, the intestinal and cerebral membranes, by metastasis; that erysipelas of the umbilical region is often complicated with peritonitis. Velpeau says that it is grave on the head, because it may be propagated to the cerebral membranes; on the thorax and abdomen, as it may be transmitted to the pleura and peritoneum; he mentions, also, that there may be metastasis to the viscera. Blandin and Donellan describe cases in which cerebral symptoms (delirium, coma, stertorous breathing, &c.), appeared on the suppression of traumatic erysipelas of the lower extremity, and which disappeared on applying a blister, and thus recalling the inflammation to its original seat. R. W. Smith (*Dublin Journal*, Nov., 1843), showed a preparation of one hemisphere of the brain of a woman, aged 30, who had been attacked with erysipelas of the face and head; this disappeared on the seventh day; she died on the eleventh, with stertorous breathing, coma, and convulsions—the meninges were found inflamed, and the right hemisphere was covered with a greenish matter. It is not improbable that many cases of pneumonia, occurring during an attack of erysipelas, and assuming the lowest typhoid form, are caused by a metastasis to the lungs; the last-mentioned gentleman says that he has seen this disease many times succeed the sudden disappearance of erysipelas on the chest. Dr. Kennedy ascribes numerous cases of inflammation of the synovial membranes to the metastasis of this affection, and attributes to the same unknown alteration of the blood puerperal fever, periostitis, typhoid pneumonia, and erysipelas. In the *New York Lancet* (for 1842) is an account of an epidemic which occurred in Middlebury and its vicinity, in the winter of 1841–2. The attack usually commenced by an affection of the mouth and throat; in proportion as this diminished, the face, scalp and neck became covered with erysipelas; after passing over various parts of the body, it attacked the brain, the lungs, and abdominal viscera. When it affected the brain, many cases proved

fatal; when the lungs were seized there were great pain and dyspnœa, with dark and offensive expectoration; in the abdomen, pain and sensibility of the integuments, with all the symptoms of puerperal peritonitis. Of the fatal cases twelve were from metastasis to the internal organs, six to the brain, five to the lungs and trachea. In an erysipelatous fever which raged in Vermont and New Hampshire, in 1842–3, (*American Journal*, Jan., 1844,) the erysipelas appeared on the third or fourth day of fever; the inflammation of the mucous membranes diminished on the appearance of the erysipelas externally; whenever this receded, the throat became again affected, and was again relieved by its reappearance. In the most rapidly fatal cases (24 to 48 hours) the fibro-serous membranes were affected.

We trust we have shown that erysipelas may attack other tissues than the skin; let us now compare its origin with that of puerperal fever, by examining the different circumstances and phenomena of the epidemics of each.

It is the character of epidemic diseases to render other affections less common during their prevalence, the poison seeming to exert its specific influence to the exclusion of all others; if, then, it appear that erysipelas and puerperal fever are very frequently met with together, it will tend to prove that they are one and the same affection (at certain times). The occasional exceptions to this (as the rare cases in which small-pox and measles have occurred together), are but sporadic cases, and do not form the character of whole epidemics, as in our subject; and, moreover, one disease has been so considerably modified by the other, as often to render it difficult to say to what class belonged the mongrel affection.

Dr. Gordon remarks, "that they are concomitant epidemics, I have unquestionable proofs. For these two epidemics began in Aberdeen at the same time, and afterwards kept pace together. They both arrived at their 'acme' together, and they both ceased at the same time." Both he and Dr. Clarke observe that almost every person who was admitted into the surgical wards during the rage of the puerperal fever, had their wounds affected with erysipelas. Mr. Hey says that during the Leeds Epidemic erysipelatous inflammations, often most malignant, were very common. Mr. West and Mr. Ceely, in their accounts of the Abingdon and Aylesbury epidemics, mention the same coincidence. Dr. Alison remarks, that when puerperal fever is epidemic, erysipelas extensively prevails; "when operative surgeons complain of erysipelas following even their slightest operations, obstetric practitioners complain of puerperal fever, as in 1825–6." Drs. Ramsbotham, Hutchinson, Collins, Ackerly, Abercrombie, and Cusack, assert that these two diseases prevail together. Mr. Ingleby observes, that puerperal fever appeared in Birmingham, in the years 1833–6, during all which time erysipelas was very prevalent, both in the town and in the hospital; also during the prevalence of erysipelas in the hospital, several women were seized with puerperal fever. In his report on the Philadel-

phia epidemic, (*American Journal*, Oct., 1842,) Dr. Condie says, that "in the neighbourhood, and even houses, in which cases of puerperal fever have occurred, erysipelas has prevailed to a greater or less extent." Dr. Huston, of the Philadelphia Hospital, noticed the same fact. In the Hôpital de la Faculté, when puerperal fever has raged in the wards of M. Dubois, erysipelas has been very prevalent in the surgical wards of M. Cloquet. The same coincidence was noticed in the Pennsylvania Hospital, by Dr. Stewardson. Some years ago, when puerperal fever raged in Boston, there were many cases of malignant erysipelas at the same time. In the winter of 1825–6, erysipelas was epidemic in Middlebury and its vicinity, proving most fatal among puerperal women; in 1840–1, the same fact was noticed in the eastern part of New York state. During the epidemic in Vermont and New Hampshire, (in 1842–3,) puerperal peritonitis was unusually frequent, and those affected mostly died; in Caledonia county (Vermont), 30 cases occurred, and all but one were fatal; in Bath, in a population of about 1600, 20 women died of puerperal fever, and 40 with erysipelas; the disease was so easily communicated by dissection, that few bodies were examined, and three physicians lost their lives from this cause.

As these two diseases exist, then, at the same time, can their similar origin be deduced from similarity of the circumstances in which they have appeared? We have seen that these diseases are not common inflammations; we have seen them occurring together epidemically, ceasing together without assignable reason, and as suddenly and strangely reappearing;—for both, then, we are compelled to allow the existence of a powerful predisposing cause (probably some atmospherical condition inappreciable by our means of investigation), under the influence of which the most trifling exciting cause is followed by the development of the disease. There are many epidemics of erysipelatous fever on record: Mezeray, in his history of France, speaks of a cutaneous affection which reigned epidemically in Lorraine, in 1130, which was called "mal des ardens;" Sydenham and F. Hoffmann call this an erysipelatous fever. In the Memoirs of the Academy of Sciences, for 1716, is an account of a similar epidemic which reigned at Toulouse in that year; another occurred in Naples 16 years before. Of these old epidemics the descriptions are imperfect; and it is only by comparing those of the last fifty or sixty years that we can arrive at any satisfactory conclusion in respect to the similarity of accompanying circumstances.

The "unknown something," upon which depends the development of puerperal fever and erysipelas, is subject to many external influences more or less appreciable to our senses; and, first of all, *temperature*. Though this fever has occurred in all seasons of the year, yet, in by far the greatest number of epidemics, it has occurred in spring and winter, when there have been the most sudden changes, and especially a very cold and moist

season; even in the cases observed in summer, there has been usually a great quantity of rain, and sudden changes from heat to cold. A few facts may be adduced in support of this opinion. Dr. Campbell observes that puerperal fever is endemic in cold and wet countries, liable to great changes of temperature; it is much more frequent in England than in France; more common in Paris than in Marseilles. In Italy it is quite rare. Savary, in his letters on Egypt, says, that "under this burning clime puerperal fever is unknown."—Salles did not observe it in South America during the space of three years. M. Delaroche has shown, by his statistics of the mortality of Geneva, that more women have there died after delivery in winter than in summer. Leroy, Chaussier, and Dugès have allowed a very great influence to cold and moisture. To humidity is doubtless owing the greater mortality in hospitals situated in low, damp places; as at the Hôtel Dieu of Paris, (on both banks of the Seine,) the deaths are more frequent than at the Maternité (which is far from the river). From a table in the Clinique des Hôpitaux, this disease is more common in France than in Prussia; it is also much more frequent in the northern than in the southern parts of the United States. These epidemics have also raged in the same places, (at different times,) with most severity in cold and humid seasons. In the Compte-Rendu of the Clinique of accouchements in the Maternité of Marseilles, from Oct., 1839 to Oct., 1840, one woman in *fourteen* died of peritonitis; and in 1829, one in *sixteen*, both of which years were very rainy; the usual rate of mortality was one in *thirty;* in the first months of 1832, one died in *eleven*, during which time an uncommon quantity of rain fell. In the Prague Hospital, in 1839, an epidemic of puerperal fever was prevalent, carrying off thirty-nine patients, commencing in the month of December; and, as only seven are ever at the same time in their large wards, atmospheric conditions must have exerted the chief influence in its production. At the Maternité of Paris, in the months of January to April, inclusive, which were exceedingly cold and wet (1841), out of 1231 women delivered, 82 died of puerperal fever; several also died in the higher ranks of society: in the month of April alone, 46 died out of 285, while in the same month of the preceding year there were only 18 deaths out of 341. Of 54 cases occurring at the hospital Necker, in 1843, 32 were in the months of December to April. Sporadic cases occur, nine times out of ten, among the poor, who are unable to provide themselves with sufficient fire to warm their damp dwellings, or dry their wet clothes,—hence the immense advantages of such hospitals as the Maternités of Copenhagen, Prague, Dublin, and Edinburgh, where the poor can be delivered in a clean, well-aired, dry ward, with less danger of their falling victims to this disease. By these, in Copenhagen, in a very rainy and foggy country, this disease, in a manner endemic, has been made to disappear;—the epidemics of Dublin, Edinburgh, and Rouen,

in the same manner disappeared when the patients were transported to a dry, well-aired, warm place, according to White, J. Clarke, and Leroy.

Erysipelas, also, seems to be more frequent in seasons remarkable for cold, humidity, or sudden changes. In the winter of 1839–40 it was epidemic in Paris, both in private and hospital practice,—and also at Edinburgh, in the winter of 1838–9. In the remarkable epidemics of erysipelas which have of late years occurred in the United States, the winter has been almost always the season of election,—as in the Middlebury epidemics of 1825–6, and 1841–2, described in the *New York Lancet* of 1842, where it is said: "In addition to the remote and predisposing causes of the present epidemic, may be mentioned frequent and great alterations of temperature. The past has been a humid and mild winter. The thermometer of Fahrenheit has rarely been as low as zero, and only twice as low as 12 degrees below, and changes of 40 or 50 degrees in the course of 12 hours, have been common events. The winds have been most of the time either westerly or south-east. These latter have been damp and chilly, and when these easterly winds have constantly blown for several days in succession, attacks of the disease have been very frequent." We do not wish to lay too much stress upon this circumstance, in either disease, as giving any clue to their origin, which we believe to depend on an atmospherical principle, which may be primarily independent of temperature; but as a singular coincidence of the most frequent prevalence of these two diseases, with certain conditions of the individual, or the situation in which coexisting physical phenomena, appreciable to our senses, have placed him. We have compared changes of temperature in the production of, or the predisposition to, erysipelas and puerperal fever; let us now extend the comparison to other circumstances, which have been found to act as predisposing or exciting causes of these affections. Though this comparison will not lead to the knowledge of their origin or final cause, (at which we can never hope to arrive,) it will at least help to show that the same active principle is at work in both, favoured, and called into more extensive existence by the same external and internal conditions,—a knowledge sufficient for all practical purposes.

When there is an atmospheric constitution favourable to the development of these two diseases, the slightest exciting cause is sufficient to bring them on; one which would be absolutely powerless in ordinary circumstances: such as the abuse of aliments, living in unhealthy situations, depressing mental emotions, inattention to the common rules of health, exposure to various accidents, and a thousand trifling causes which we cannot enumerate here. But though erysipelas may be called into existence by such slight exciting causes, it most frequently and surely makes its appearance, (both in epidemic constitutions, and in them not,) after severe injuries and surgical operations; hence physicians consider it a much less dangerous disease than surgeons. Like a person who has un-

dergone a grave operation, the puerperal woman is worn out by fatigue, pain, and excitement; like him, she is exhausted by loss of blood and weakening discharges; her nervous system is so susceptible to all stimuli that she has been justly termed a "perfect sensitive plant;" to this are added the fears and anxieties inseparably connected with her own and her child's condition. Leaving out of view difficult and instrumental labours (in which the similarity is evident), as exceptional, let us see if *every puerperal woman*, in civilized life at least, be not precisely in the circumstances in which erysipelas is most often developed. Every one will allow that, although this affection sometimes appears without evident external wound, it is by far most frequently a sequela of some solution of continuity, either accidental or designed. But it may be said, "there is no solution of continuity in common cases of labour; how then does the comparison hold good?" Unfortunately for the full appreciation of the following statements, it is generally considered that all examination of the external organs of the mother is useless and uninteresting after the delivery of the child and placenta, unless there is reason to suppose that something unusual has taken place. Such examination is impracticable in private practice, and for the most part neglected in hospitals; but in the wards of M. Dubois we have often had occasion to witness the proofs of what will now be briefly stated of the condition of these parts for some time after delivery, —the patients in such institutions, too, being of that class of society in which labour is usually followed by less functional disturbance and fewer accidents than in women enfeebled by luxury and sedentary habits. In addition to the peculiar state of nervous excitement in which the parturient woman is left, there are certain tangible and visible conditions no less remarkable and constant. The greater labia, especially if it be a first child, are swelled and painful, and exceedingly flaccid; in the lesser labia there are very frequently small rents and lacerations, in a vertical direction, (especially at their upper part,) the mucous membrane being almost always more or less detached. The vagina is also much swelled, and painful; and its epithelium removed, in many places, to a greater or less extent in proportion to the resistance encountered by the head of the child on its passage. The neck of the uterus is soft, flaccid, and torn to a considerable extent; so universal, indeed, is this, that there is no surer criterion by which to judge that a woman has had children, than by the cicatrices of these little wounds. The lips of the external or vaginal mouth of the neck are of a deep violet colour, as also the neck itself, resembling a part which has been violently contused; the cavity of the neck is easily penetrated, and the finger feels itself in a conical canal, the apex *upwards;* the introduction of the finger causes pain, not probably that the neck is very sensible, (in fact, many, especially M. Jobert, maintain that it is completely insensible,) but that pressure is necessarily exerted upon the surrounding parts. The cavity of the uterus is covered with a thin stratum of

blood, under which is seen a surface having upon it fragments of the utero-placental arteries, and by the sides of these the various openings of the utero-placental veins; if this surface of the uterus be plunged under water, there will be seen floating an infinite quantity of little fragments *over its whole extent*, which are the remains of the decidua,—or according to some, of the mucous membrane, (these considering the caduca as an exfoliation of the lining mucous membrane of the uterus.) On one portion of the uterine surface, after a few days, is seen a projecting disc, covered with granulations; this was the insertion of the placenta: its exact resemblance to a granulating wound has led some authors of repute to consider it as such. The peritoneum, distended during gestation, is subjected during the easiest labour to compression and friction at the superior pelvic strait, by the motions of the child's head and the efforts of the mother; this may be increased by a loaded state of the large intestines, or the fullness of the bladder. The different ligaments of the uterus are also more or less on the stretch; and all the abdominal viscera, especially in the hypogastric region, are violently disturbed. [That the distension, or other injury, of the parts of the mother has something to do with the origin of puerperal fever, appears from a report (*Edinburgh Medical and Surgical Journal*, Oct., 1844), of the practice of Mr. Collins during seven years at the Dublin Hospital. The greatest number of women who died during, or after accouchement, gave birth to boys; of 154 who died during labour, 105 had boys; in 109 cases of tedious labour, 65 had boys and 44 girls, 148 to 100; in 88 cases of puerperal fever, there were 54 births of boys, and 34 girls, or 160 to 100. Mr. Simpson ascribes this, most naturally, to the greater size and development of the male fœtus.] Add to all this the frequent remains of portions of the placenta, and coagula, in the uterine cavity, and you have exciting causes enough to call forth the latent poison of erysipelas; to which an atmospheric condition, local causes acting on peculiar constitutions and in unhealthy situations, and the puerperal state, had already predisposed the individual.

We have thus seen that the analogy between the states most favourable to the production of these two diseases is much more strict than would at first sight appear; that in both there are the same exciting causes, as wounds, distension and compression of parts, irritations, and the same state of mental and bodily fatigue. We may now attempt to show that they are originated and propagated by one and the same contagion. We need not here repeat what has been said of the distinction between contagion and infection, but shall continue to employ the former as a generic term including the latter. We may also call to mind the laws of contagious and epidemic diseases; that contagion is a mere accident, and not a necessary element of a disease; that before it can exert its influence, the body must be predisposed; that epidemics are sometimes the *effects* of contagion; and that this contagion is influenced by epidemic and endemic conditions.

When we see erysipelas affecting persons in attendance on those affected with it, and by them afterwards communicated to others, we are justified in supposing that it may sometimes be contagious. Many cases of this are cited by English authors; by Willan, Wells, Lawrence, Wright, Arnott, Alison, Williams; and many more will be found in the course of these remarks. That it may be communicated by inoculation would appear from the following case of Mr. Nunnely. "Mary Glisby had an indolent bubo in the groin, which was dressed with red precipitate. In going home afterwards, she got very wet; erysipelas appeared round the bubo, and spread over a large surface of the integuments. During this time, her sister, who was in the habit of washing and dressing the sore, cut her right thumb. She took no precaution, but on the same day, and almost immediately afterwards, washed the erysipelatous sore as usual. Within a few hours, the cut inflamed and became very painful, and from it erysipelas spread over the whole arm." Mr. Sidey mentions the case of an out-door patient of the Lying-in Hospital, who was in attendance for several days upon a person affected with an erysipelatous inflammation of the knee-joint. When she returned to the hospital, she took charge of a new-born child; two days afterwards the child was seized with erysipelas on the abdomen, which proved fatal, (as this disease almost uniformly does in new-born children, according to Trousseau.) Donellan (*Cyclopedia of Practical Surgery*, article Erysipelas) says, "Without meaning to assert that erysipelas is always a contagious disease, it is well that the practitioner act on the principle that it may be so, especially when several cases occur at the same time."

If puerperal fever and erysipelas depend on the same cause, and are propagated in the same manner, we ought to find well-authenticated instances of the former giving rise to the latter, and *vice versâ*. These instances are not wanting. First, the contagion of erysipelas may give rise to puerperal fever.

Before the epidemic in the British Lying-in Hospital, in 1829, two children died of erysipelas; another died in the course of the epidemic, presenting the peculiar appearances in the abdomen which will be described when speaking of the morbid anatomy of this affection. Before its reappearance, in the following year, another child died, presenting the same appearances.

Mr. Hutchinson, of Nottingham, mentions the following fact. Two physicians, living ten miles apart, met half way in attendance on a person affected with extensive erysipelas of the lower extremity, in which both made incisions. One of them, the same evening, attended a woman, previously healthy, who died of puerperal fever; the other, in the two following days, attended three cases of midwifery, all of which proved fatal from the same disease.

In the *Edinburgh Medical and Surgical Journal* (1838), Mr. Renton

makes this statement. "Between the house where was one case of puerperal fever, and the adjoining one, between the inmates of which there was daily intercourse, two children had been affected with, and at the period of her delivery, were recovering from a very severe attack of erysipelas." This was much more common than in ordinary seasons.

The woman in Mr. Sidey's case (above mentioned), who took charge of a new-born child who died soon after with erysipelas, attended also the mother, who was seized with puerperal fever on the fourth day after delivery. She and several others died of this disease. The hospital was free from the fever before the appearance of erysipelas on the child.

In the *Edinburgh Journal* for 1838 are three very remarkable series of cases, mentioned by the late Dr. Ingleby of Birmingham. *First series.*—In 1833, a physician was in attendance on a lady affected with erysipelas. After making incisions in the part, he went directly to a case of midwifery, in which delivery took place on the 28th of August: result fatal, from puerperal fever. Almost immediately afterwards, on the same evening, he attended a second patient in labour, who was seized with the disease the next day: result fatal. His third patient was delivered on the 3d of September; disease commenced on the 5th; result fatal. His fourth patient was attended on the 4th; disease began on the 6th; recovered. The fifth and sixth cases happened as follows. This physician and his assistant, after having been engaged, on the 5th, in making the autopsy of the second case, went in the same dress, each respectively, to a case of labour; both patients were seized with the disease; one recovered, and the other died. His seventh case occurred on the 7th, having been before visited on the 6th, when he had on the same clothes; result fatal. This gentleman gave up midwifery practice for a time, and had no more cases. *Second series.*—Two physicians, after having made incisions in, and dressed, some extensive erysipelatous wounds of the arm, went, in the course of half an hour, to a case of midwifery; both assisted in the delivery, as the placenta presented; delivery took place on Tuesday, and death from puerperal fever on Saturday. A second patient was delivered by one of these physicians, six or seven hours after dressing the wounds. This patient had a severe attack of the disease, but recovered under the mercurial treatment. Her nurse was seized with a violent erysipelatous inflammation of the throat. *Third series.*—A physician, after having opened several erysipelatous abscesses, delivered a patient in November, 1836; death from puerperal fever on the following day. A second was delivered by the same gentleman on the 8th of November; death from this disease on the 13th. A third was delivered on the 8th, and died on the 14th; a fourth on the 10th, and died on the 15th; a fifth on the 14th, and died in a week; a sixth on the same day, and died in a fortnight; a seventh case recovered. He mentions two other cases. The first was a case of puerperal fever thirty hours after delivery; death in two days. Previous to the delivery the physician had dressed a

severe erysipelatous sloughing wound. A physician, after a case of erysipelas of the scalp, had several cases of midwifery in the neighbourhood. One of his patients had an attack of erysipelas, causing premature labour and death. Others were attacked with puerperal fever, of which some died. This gentleman remarks, "I have no doubt of the connection of the whole of the cases with the case of external erysipelas, and of its being contagious."

In the *Provincial Medical and Surgical Journal* for 1842, is the history of an epidemic of puerperal fever, which raged at Doncaster, by Mr. Storrs. During the winter of 1840–1, erysipelas was particularly common and grave at Doncaster; puerperal fever had never reigned there as an epidemic within the memory of the oldest physician. On the night of the 7th of January (which was the coldest that had been known for years), Mr. Storrs delivered the patient who forms the subject of his first observation; death from puerperal fever on the 12th. On the 13th, his second case occurred; fatal on the 17th. His third case occurred the same day; fatal the 22d. Fourth case on the 24th; recovery after a long and dangerous illness. Fifth case on the 8th of February; recovery; and three other cases in the same month, all fatal within five days. As soon as he saw three cases occur in his practice, he employed every means to hinder the propagation by himself. He suspected the existence of an epidemic; but as his brethren had no cases, he became convinced that he was infected with the poison, and he accordingly absented himself from the town from the 1st to the 16th of March, changing his clothes, undergoing thorough ablutions, &c. On the 21st of March he delivered his ninth patient, who was seized with the disease, and died on the 25th. A last case happened on the 22d, which proved fatal on the 27th. He at last discovered the cause of this series of accidents in a case of gangrenous erysipelas of the leg, which he visited the day before, and for the first time the very day on which he delivered his first patient. Numerous abscesses supervened on the erysipelas, which he opened from time to time, all the while attending his cases of labour. He opened the last of these abscesses on the morning of the day on which he delivered his ninth patient. He gave the patient with erysipelas over to another physician, and gave up practice for a month. At the end of this period he resumed it, and had no more accidents. On the 11th of June, not wishing to visit the patient for fear of farther trouble, he sent the most advanced of his pupils to apply a bandage to the leg. The pupil went, immediately after doing this, to deliver a woman, who was attacked with puerperal fever, which came near proving fatal. As if these facts were not sufficiently striking and conclusive, he adds that many of these cases had been otherwise exposed, than by his visits, to the contagion of the prevailing erysipelas. This series of cases shows that the so-called epidemics of puerperal fever are sometimes the *effects* of contagion.

In the *American Journal*, (Oct. 1842,) Dr. Jackson observed:—"It may

be worthy of remark, that the house in which the first case of the disease occurred, was filthy almost beyond comparison; add to which, I was attending and dressing a limb extensively mortified from erysipelas, and went immediately to the accouchement with my clothes and the unfortunate gloves most thoroughly imbued with the effluvia of that sphacelation. The erysipelas had been very prevalent for six months, and difficult to manage."

In the same article it is said that, in the years 1837–8, erysipelas made its appearance in the surgical wards of the Pennsylvania Hospital; and, notwithstanding every means employed to prevent it, two cases of puerperal fever appeared in the lying-in ward; one case got well, the other died; the treatment was the mercurial and antiphlogistic combined.

During the epidemic which raged in the lying-in ward of the Philadelphia Hospital, in May and April, 1842, Dr. Wilson said, "Erysipelas also reigned epidemically, even in the lying-in wards, and it had not disappeared when the first cases of puerperal fever declared themselves."

In the third letter, in the article of Dr. Holmes above alluded to, in which is an account of five cases occurring in one man's practice, it is said, "If the disease is of an erysipelatous nature, as many suppose, contagionists may perhaps find some ground for their belief in the fact that for two weeks previous to my first case of puerperal fever, I had been attending a severe case of erysipelas, and the infection may have been conveyed through me to the patient."

Does the contagion of puerperal fever, on the other hand, ever give rise to erysipelas?

Mr. Sidey (*Edinburgh Journal* for 1839), gives a series of cases, in which this contagion was manifest; of this we give the following abstract. Persons who had been in communication with, or in attendance upon those affected with puerperal fever, were affected with erysipelatous inflammation of the skin, mucous membrane of the throat, and the peritoneum. *Case* 1.—Mrs. C. delivered of her third child; easy labour; died on the seventh day after delivery, and the fifth of the disease. Her servant maid, on the fourth day of her mistress's illness, was seized with fever, accompanied with severe abdominal symptoms; then there appeared an erysipelatous inflammation of the right breast and shoulder-joint, with purulent effusion into the axilla; fatal in two months, with effusion into the pleural and peritoneal cavities. Her husband was seized with erysipelas, four days after her death, the throat being chiefly affected; he recovered. *Case* 2.—Mrs. M., 7th child; easy labour; death on the sixth day. Five cases of erysipelas occurred among her friends the week after her death; her sister-in-law had an erysipelatous affection of the throat; her mother-in-law, who had been in constant attendance upon her, had a fever, and erysipelas of the face and head: her son, five years old, was similarly affected. *Case* 3.—Mrs. J., second child; easy labour; death on the seventh day after

delivery. Her infant, a healthy boy, on the 8th day was seized with erysipelas of the umbilicus, which spread over the lower half of the body; the penis and scrotum became gangrenous; fatal. Dr. Imlach, who assisted at her autopsy, was affected four days after with fever and an erysipelatous affection of the throat. The same erysipelatous affections happened in the practice of others in the year 1837.

Mr. Ackerly, in the *London Medical Gazette*, mentions seven cases of puerperal fever, of which four were fatal. Four of the children died of erysipelas in different parts of the body.

A physician, having cases of puerperal fever, attended a patient with pleurisy, and bled her; in four days afterwards the arm was affected with erysipelas, which spread to the axilla; patches of erysipelas appeared in various parts of the body; pus was found in the vein.

Mr. Ingleby mentions a case of puerperal fever, where the servant was attacked with erysipelas; and in another the nurse was compelled to leave her situation, in consequence of a severe erysipelatous affection of the throat. Similar circumstances occurred in the Aylesbury epidemic.

Mr. Ceely mentions that every puerperal case, in the epidemic of 1831, at Aylesbury, gave rise to numerous cases of erysipelas in the persons of the nurses and attendants.

Dr. Condie says, that in the practice of Dr. Rutter, who saw the greatest number of cases, two children had died of erysipelas, one shortly after birth, and the other later. So common is it for the children to die of erysipelas, while the mothers are affected with puerperal fever, that M. Trousseau sometimes calls it "puerperal fever of infants," meaning to convey, by this expression, the idea of the similarity of the two affections. In one of Dr. Warrington's cases, the nurse who attended on the patient was attacked with violent erysipelas of the face and scalp, a few days after, and died; in another case, the nurse had a severe erysipelas of the leg, but recovered.

In the first series of cases in Dr. Holmes' article, it is said that there were several cases of erysipelas at the time of the fatal puerperal cases. "The nurse who laid out the body of the patient No. 3, was taken on the evening of the same day with sore throat and erysipelas, and died in ten days from the first attack. The nurse who laid out the body of No. 4, was taken on the day following with symptoms like those of this patient, and died in a week, without any external marks of erysipelas."

Puerperal fever and erysipelas often co-exist in the same patient, which is additional proof of the sameness of the two affections.

M. Danyau, in an account of an epidemic at the *Maternité* of Paris, in 1844, mentions the following case:—On the eighth day after delivery, symptoms of metro-peritonitis came on; two bleedings were practised; leeches and mercurial frictions to the abdomen. In a few days after the disappearance of these symptoms, the skin of the abdomen became painful,

and covered with a large erysipelas, of violet colour, and with small distinct elevations.

M. Baron, of the *Hôpital des Enfants Trouvés*, of Paris, says that in almost all the fatal cases of infantile erysipelas, there was also peritonitis; he considers this the general rule. This is also borne out by the testimony of M. Trousseau, of the Hospital Necker. Mr. Alison says that these two affections occur together in the same person; and that the same has been noticed in new-born infants.

Dr. Johnstone, in his Inaugural Dissertation, has related a case "in which erysipelas appeared on the arms of a patient affected with this fever the day preceding her death." Drs. Hutchinson and Holmes mention similar cases.

Mr. Ingleby mentions a case of traumatic erysipelas terminating in peritonitis. During the prevalence of the puerperal fever and erysipelas in Birmingham Hospital, a girl had some warty excrescences removed from the pudenda; erysipelas and symptoms of peritonitis came on, which proved fatal; on examination, the morbid appearances were the same as in the fatal cases of erysipelatous puerperal fever.

In the last stages of this fever, M. Dubois often lays stress, before his class, upon the erysipelatous redness of the fingers, especially the articulations. This he considers as the almost certain sign of approaching death.

Pouteau, Home, Lowder, and Young, maintain puerperal fever to be of an erysipelatous character. Kirkland thus alludes to the subject. "Some years ago an erysipelatous sore throat, accompanied with an efflorescence, prevailed in my neighbourhood, and several women in child-bed were seized with the disorder." Dr. Whiting also asserts that uterine puerperal inflammation is not a common inflammation, but of an erysipelatous nature. Travers says that "a large proportion of the puerperal cases are cases of erysipelas of the peritoneum;" that the characteristic local results are analogous to those of erysipelas, with the same prostration. Dr. Lee admits "that there is some connection between erysipelas and puerperal fever." Mr. Moore says, "the opinion which regards erysipelas and puerperal fever as similar, is certainly much supported by certain facts connected with their common origin." Dr. Alison maintains that puerperal fever is nothing but an erysipelatous inflammation of the peritoneal covering of the pelvic region, extending, as the disease advances, over the abdominal cavity, and body of the uterus. Mr. Thomas Nunnely considers phlegmon and erysipelas as opposite types of inflammation; to the latter he refers erythema, erysipelas, diffuse inflammation of the cellular membrane, puerperal fever, diffuse inflammation of the serous and mucous membranes, and also of the internal tunic of the veins and absorbents. In support of this opinion he adduces a great number of facts, which we can only allude to here.

Let us see if the examination of the symptoms, march, termination, and

morbid appearances, does not render still more probable the identity of these two affections.

The distinction between erythematic and "phlegmonous" (common) inflammation should here be borne in mind. In the latter the action is limited; there is little constitutional disturbance, or, if there is, it will be what Hunter calls "action with power;" in which the antiphlogistic treatment is requisite—while in the former there is "action without power," and a tendency to rapid and extensive spreading; in which the above treatment is positively contraindicated. The remarkable difference between the symptoms of epidemic puerperal fever and erysipelas, and those of common acute inflammations of the uterus and its appendages, seems to us to put an immense gulf between them, which it is useless to attempt to bridge over.

The febrile affection of the whole system, depending on the introduction of a specific poison, quickly puts on an adynamic character; the attack, in both these affections, commences by a chill, more or less intense, sometimes constituting a perfect rigor; this is followed by febrile reaction, hot skin, quick pulse, &c.; the strength rapidly sinks, and the countenance becomes anxious and depressed; the pains, unlike those of common inflammation, are not intense, but dull; a sense of soreness, of being bruised, rather than acute pain; not usually so aggravated by the slightest pressure as in common peritonitis; the abdomen not remarkably tense. These symptoms persist usually till death, increasing in intensity as the disease advances; though sometimes there is a remarkable remission just before the fatal moment, leading the attendants to hope for a favourable result; this is but a deceitful appearance, the last scene of the drama. In sporadic cases, the adynamic symptoms are generally less marked. It is an admitted opinion, that diseases, when epidemic, induce a greater degree of prostration than when they are sporadic; witness these two affections, bronchitis and influenza, sporadic and epidemic small-pox, and measles.

The morbid anatomy of these two diseases is remarkably similar. In the part of the body most commonly attacked by erysipelas, (the skin and subcutaneous cellular tissue,) there is an infiltration of a bloody, flaky serum, unconfined like the lymph of healthy inflammation. In *Tweedie's Library of Medicine*, (vol. 4, 1840,) Dr. Symonds says that the peritoneum is liable to a kind of inflammation, accompanied by adynamic fever, and terminating rapidly in the effusion of a serous fluid, milky or bloody, with very little, if any, intermixture of coagulable lymph; the latter substance, when found, being in flakes, scarcely adhering to the peritoneum; he mentions this as common in puerperal women. Dr. Abercrombie describes several cases of a similar form of peritonitis, which he considers allied to erysipelas. In the Middlebury epidemic, which affected the peritoneum of puerperal women, this same fluid was observed on all the surfaces attacked by the disease; this serous membrane presented an appearance of *slight* inflammation, characteristic of the fact that in specific diseases the post-mortem appear-

ances are not in relation to the severity of the symptoms; merely a slightly congested state, with the above-mentioned flocculent serum. In the Philadelphia epidemic, precisely the same appearances were noticed; viz., great effusion of serum, with no coagulable lymph, or adhesions, and little appearance of inflammation. The same is mentioned by Mr. Ingleby, who says, "the appearances, as exhibited after death in the eight cases examined, differed from the common acute form of peritonitis, in leaving fewer traces of morbid products, and in the non-adhesion of parts by coagulable lymph. With a single exception there was no appearance of false membrane, or flakes of very soft lymph floating in the effused serum." Purulent formations were found in various parts of the abdomen.

We need not here allude to immunity from second attacks; the extent to which the effluvia spread; the period when they are most contagious. What was said before is applicable here, as it was said of a *form* of the *same* disease.

We shall conclude by reducing what has been said to the following propositions.

1. That puerperal fever is not a common peritonitis, but a general diseased condition, in which the peritoneum, and every structure of the uterus, singly or jointly, may be affected; according as one or the other is attacked, giving rise to a series of symptoms, as complications, which may impose upon the observer as the real disease, and add to the gravity of the affection according to the organ diseased—thus explaining the contradictory statements of authors.

2. Erysipelas is also dependent on a diseased condition of the whole system, and may manifest its action externally on the skin, or internally on any viscus, or membranous structure; the skin and cellular tissue are most frequently the seats of the affection—the serous membranes being a modification of the latter; and the peritoneum being predisposed by gestation and parturition, explains the frequent affection of these in the abdomen.

3. The same seasons, and the same morbid states of the atmosphere give rise to puerperal fever and erysipelas; from their almost constant co-existence, their common origin is evident, though the intimate nature of the cause be unknown.

4. The same morbid poison gives rise to these two diseases; in other words, puerperal fever is often only erysipelas attacking a puerperal woman; presenting the same constitutional symptoms, march, and morbid appearances, with a tendency to the uterine organs, as would be naturally expected. [We do not mean to say that puerperal fever is synonymous with erysipelas, as we would not quarrel with those who may persist in calling by this name intestinal irritation, inflammatory fever, and the many inflammations from common injuries during labour or the puerperal state: or in fine, any suspicious disease, occurring at such a time, and in want of a name.]

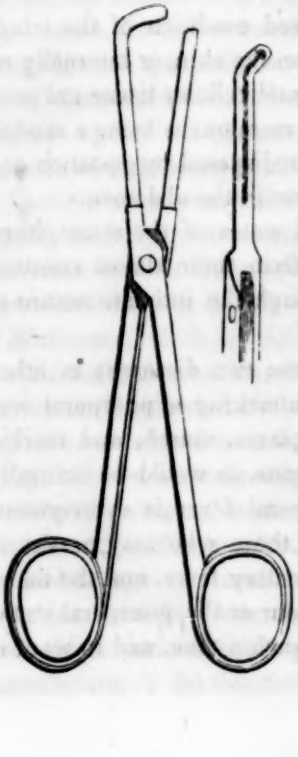
5. The practitioner should not attend, or dress, cases of erysipelas when attending women in labour; and should much less make autopsies of such cases.

In conclusion we may remark, we conceive it to have been shown that puerperal fever is often contagious, and the erysipelatous form remarkably so; and that these two diseases have the same origin, one and the same contagion operating in the production of both.

ART. V.—*Description of a New Operation for the Cure of Hemorrhoids.* By M. AMUSSAT, M. D., of Paris. [With a wood-cut.]

REFLECTING on the number of accidents which have occurred after the operations for the cure of internal hemorrhoids, and there being, also, at this time, a general reprobation of the operation of excision, on account of the evils to which it has given rise, I was led to think that the same end might be obtained by ligature, without exposing the patient to the very unfavourable chances of excision.

For a long time I employed exclusively the ligature, and of a great number of operations performed by me not one terminated fatally, though I observed some inconvenience to result from that method of treatment. In 1842, the discovery of the solidified caustic of Vienna, suggested to me the idea of recurring to cauterization in order to avoid the nervous accidents which sometimes take place in consequence of the constriction produced by the ligature, and likewise to simplify an operation, the necessity of which is so often felt. During several years cauterization was performed on a great number of patients with the caustic of M. Filhos, *i. e.*, with a cylinder composed of potassa and lime solidified; and the effects of this operation were much more simple than those of the operation by ligature.



In the month of April, 1844, my son, M. Alphonse Amussat, thought that cauterization of the hemorrhoid *en masse* might be advantageously replaced by the circular cauterization of its pedicle. To attain this end he had made, by M. Charrière, various porte-caustic forceps. Those which I prefer (see accompanying figure), are nothing more than dressing

forceps, whose extremities form two little cylinders of about four centimetres in length, and two or three millimetres in diameter, upon each of which has been cut, parallel to its axis, a deep groove intended to receive the caustic of Dr. Filhos, or a paste made of the same caustic pulverized and a little alcohol. The following is an account of a case operated upon by this method, and contains the details of the operation.

M. D——, ætat. 60, of a good constitution, had enjoyed excellent health until 1840. At this epoch he felt, for the first time, some uneasiness about the rectum, accompanied by a slight loss of blood. From that time the same phenomena appeared rather frequently, especially after the fatiguing labour which his position required him to undergo. The patient thought that he had a prolapsus of the rectum, and he applied a bandage with a pad, which embarrassed him very much when he walked. Finally, during the present year, (1845,) the pain and inconvenience which his disease caused him having become more frequent, he determined to consult a surgeon.

Dr. Pouget, who usually attended the family, applied to me on the 14th of July, and I proposed to rid the patient of two hemorrhoidal tumours; these, and not a prolapsus of the rectum, as M. D—— had imagined, being the sole cause of the pain which he suffered. The 16th was fixed upon for the operation, as he was to prepare himself for it by taking a mild cathartic and subjecting himself to a strict diet.

July 16th. M. D——, after returning an enema which he had just taken, made strong expulsatory efforts as if to go to stool; two internal hemorrhoidal tumours could then be seen of the size and form of a large bean, situated upon the lateral portion of the rectum, at a short distance from the anal orifice, likewise two external ridges corresponding to the internal hemorrhoids. The patient having placed himself on the right side, I seized the left hemorrhoid, the larger of the two, with my porte-caustic forceps, and held it in this manner during a minute and a half. I then opened it with scissors in the direction of its length to empty it of the little blood which it contained, and still holding it with the forceps, cauterized its interior with a cylinder of Filhos caustic. At the expiration of half a minute more the operation was finished. Injections were made in order to remove the particles of caustic which adhered to the surrounding parts, and the patient got immediately into a hip-bath which had been prepared beforehand.

The patient remained several hours in the bath without experiencing any sharp pain and without having the least feverish excitement; he passed a good night, and the next day felt but very slight pain. The cauterized hemorrhoid was flat, blackish, like a true eschar, and the laminæ resulting from the incision were perfectly distinct. Strict diet and a slightly astringent drink were prescribed in order to avoid stools which might have caused the hemorrhoid to fill before the time necessary for its elimination should have elapsed. The following days the patient was subjected to the

same regimen, viz., frequent hip-baths, injections and cataplasms, with no other nourishment than a little broth. The seventh day the hemorrhoid came away in pieces after a moderate stool, and without causing the patient any suffering. The eighth day M. D—— felt very well. In place of the destroyed hemorrhoid was seen a little linear cicatrix about three millimetres in length, surrounded by a small reddish areola, with a slight suppuration. The other hemorrhoid seemed to have diminished in size, and its surface was slightly inflamed.

During the seven days preceding the fall of the cauterized hemorrhoid M. D—— had several stools, small in quantity, and almost liquid, provoked by injections, but the process of elimination was in no wise altered by them. In the course of the treatment the patient having several times complained of a painful point near the left external projection, I made with a lancet a slight incision, which gave issue to a red granular matter, the escape of which gave the patient relief. Some days after I destroyed the second hemorrhoid by the same method, with the omission, however, of the longitudinal incision, which omission rendered the process of elimination a little more painful. About the middle of the month of August the patient was entirely cured.

Paris, *Nov.*, 1845.

[We are indebted to Dr. Henry Selden, of Norfolk, Va., through whom M. Amussat transmitted to us this very interesting paper for publication, for the translation of it here given.—Ed.]

Art. VI.—*Extra-Uterine Pregnancy—Retention of the Fœtus fifteen years in the cavity of the abdomen, during which time the patient was delivered of a full-grown child at term—removal of the extra-uterine fœtus—complete recovery.* By Thomas H. Yardley, M. D., Consulting Physician to the Lying-in Department of the Northern Dispensary.

M. G., aged 44 years, of leucophlegmatic temperament, accustomed to much exposure and hard work, applied to me for advice in the early part of August, 1844. She had considerable fever, and complained of pain in the lower part of the abdomen, where a large tumour could be distinctly felt. She said this lump had been there for many years: that it gave her very little inconvenience, except when she lifted heavy burdens or took cold, and then a few days' rest and a mild aperient would remove the unpleasant symptoms. She refused to submit to the necessary examination to ascertain the extent and locality of the tumour, and the usual antiphlogistic treatment was adopted.

I continued to visit her occasionally till the end of the year, by which

time she had become very much reduced by pain, irritation and hectic fever.

Early in January, 1845, a large quantity of purulent matter was passed from the bowels: this discharge continued at intervals till July, when she informed me that small pieces of bone had come away with the matter from her bowels. On examination they proved to be the bones of a fœtus; and with considerable difficulty I learned from her the following history of her case; of which she acknowledged she had intentionally kept me in ignorance for fear of having to submit to some unpleasant operation.

In 1830, soon after her marriage to her present husband, (she had previously been married but had not had a child,) she became pregnant. The *catamenia* were *suspended;* her breasts enlarged; and she had nausea and *morning sickness* as in ordinary pregnancy, but no unusual or anomalous symptoms.

When near the term of utero-gestation she had a fall which was followed by violent crampy pains in the abdomen, but not like the labour-pains which she suffered in her subsequent confinement, and there was *no discharge per vaginam.* A physician visiting in the neighbourhood was called to see her: he, however, made no examination, and after directing an anodyne left her with the understanding that he was to be sent for if his services were required. He was not sent for; and though she suffered severely for several days, and was unable to leave the house for six months, yet she never had any regular medical attendant.

She had no vaginal discharge* for at least a year after this attack of pain, and at that time her catamenia returned; her health gradually improved, and early in 1834 she again became pregnant, and passed through the usual period of utero-gestation without the occurrence of anything unusual. My friend Dr. Noble attended her during her accouchement, and has kindly furnished me with the following account. "In looking over my note-book I find that on the 5th of 10th month (October) 1834, I attended M. G. in her confinement with a still-born male child, at which time there was (apparently) a full-sized infant of a former pregnancy, in the abdominal cavity, extra-uterine.

"I well remember that it caused much difficulty by the head of the extra-uterine fœtus slipping into the cavity of the pelvis, thus obstructing the passage of the last-formed child; but by constantly pressing up the head of the extra-uterine fœtus, the other child was delivered, though not living.

"During the convalescence there was nothing very remarkable."

After she was delivered of this child, she says she became pregnant two or three times and miscarried in the second or third month, but was not attended by a physician. Her general health, however, was very good, and she worked hard till August, 1844, a period of nearly ten years.

As the case was one of unusual interest and the patient appeared in a

* The patient is very positive on this point.

critical situation, I called on Professor Hodge, of the University of Pennsylvania, who kindly gave his assistance.

On making an examination per rectum, the os femoris of a fœtus was found projecting into that cavity from an opening on its anterior surface, about four inches from the anus; and on examining per vaginam, the uterus was found pressed against the pubis by a large mass, (evidently a sack containing part of a fœtus,) which filled up the posterior part of the pelvis and pressed the vagina forwards.

Dr. Hodge removed the os femoris and one or two small bones, but it was apparent that the soft parts of the fœtus were still firm, except where it was exposed to the air from the opening into the rectum. It was, therefore, deemed most prudent to wait till decomposition had produced such a solution of continuity as would enable us to operate with safety. The difficulty of the undertaking being greatly increased by the fact that the opening into the rectum was on the upper part of the sack, the main body of the fœtus lying below it.

Dr. Hodge visited the patient with me at intervals of two or three days, and at each visit removed such portions of the fœtus as could be separated from the main body without using imprudent force. During these operations, the patient became much exhausted, and appeared to suffer severely, particularly from the passage of sharp points of bone through the rectum.

After each operation, and on the intermediate days, the sack was washed out by passing a flexible tube through the opening into the rectum, and injecting a large quantity of tepid water. Tonics and a nourishing diet were also given to support her system.

About the middle of August, inflammation and suppuration took place in the perineum, and some small pieces of bone passed through the opening, and Dr. Hodge, by enlarging the aperture, extracted an os-ilium.

The space between the anterior part of the sack and the vagina had now become very thin, and as the head and a considerable portion of the fœtus still remained in the sack, which continued to recede still further below the opening, thereby rendering it still more difficult to remove the contents, it became a question whether it would not be proper to make an opening into the lower part of the sack from the vagina, and through that passage at once remove the remains of the fœtus: particularly as the strength of the patient seemed failing, and it appeared probable that nature would make the opening if we did not.

In this state of the case, Professor Horner was called in consultation. It was decided to continue to operate from the rectum as heretofore; the dread of a troublesome recto-vaginal fistula being the principal objection to an incision from the vagina.

Dr. Hodge being called to visit an obstetric patient, Dr. Horner, at his request, proceeded to remove such portions as could be detached. The bones of the head were found separated from each other, and were removed

with much less difficulty than had been anticipated, though their sharp edges caused much pain as they passed through the rectum. One of the thighs with the flesh on it was removed: and also the principal part of the spine united by the ligaments and muscles. During the passage of these large masses through the rectum, the abdominal muscles were called into action, and bearing-down efforts similar to those of ordinary labour were produced.

The process of removing from time to time such remains of the fœtus as could be extracted without injury to the mother, was continued for some weeks. Dr. Hodge punctured, from the rectum, a fluctuating tumour below the main sack, from which a quantity of bloody fluid escaped, but it contained no bones.

The patient began to improve early in October, and the sack, in which no bones could be felt, seemed to contract, although there was a good deal of thickening on the left side of the rectum. Mildly astringent injections were now thrown into the sack, and the patient encouraged to use exercise in the open air. From this time she rapidly regained her health and strength, and by Christmas she was *perfectly well.* The fistulous opening in the perineum was healed, and she was not conscious of any unnatural sensation in the pelvic region.

Many of the small bones were lost, but those which were preserved are in the possession of Professor Hodge of the University of Pennsylvania.

ART. VII.—*Case of Extra-Uterine Pregnancy.* By EDWARD WHINERY, M. D., of Fort Madison, Iowa.

On the 23d of May, 1845, I saw Mrs. M. Foster. She was confined to her bed and complained of much debility. There was a tumour in the abdomen that extended from the anterior iliac spine of the right side as high as the umbilicus, and passing the linea alba, so as to occupy three-fourths of the abdomen. It was pretty firm and even in shape, slightly elongated towards the left hypochondrium. There was much tenderness upon pressure. There was also pain, intermitting, as in parturition. My inquiries drew forth the following history of herself.

When a child she had been cast among strangers to have an existence. She was healthy, and menstruated at fifteen; did not know what it meant; on the third day went to a spring and washed her linen. The consequence was immediate suppression of the menses. Much pain and difficulty followed; and thus she lingered some two years without the aid of a physician. She was dropsical and health fast declining, but received medical aid in time to be restored. At the age of twenty she married, and in about a year gave birth to a child, and again to a second in a year and a half from

the first. After this second birth she observed a tumour in the abdomen at the right side, and that there was motion in it. In a month she was seized with severe pain,—intermitting, and resembling those in the incipient stage of labour. Dr. Thomas, of Schoolcraft, Michigan, saw her; applied fomentations, &c. Pain continued a week and ceased. Her health became good, though she still felt the motion in the tumour. She became pregnant again, and in a year and eight months gave birth to a third child. After this last birth she still observed the tumour, and that it had enlarged since the previous birth. In a week she again had pain which continued a week, as before, and in three weeks there was a recurrence, and thus it continued to recur every fourth week until I saw her, generally lasting nine or ten days at each period. There was slight hemorrhage at each pain, which was taken by physicians and nurses to be menstruous. The motion in the tumour was most distinctly felt when there was pain.

When I saw her (eighteen months after the birth of the last child), a period of these parturient pains was about closing, having lasted nine days. The motion in the tumour had ceased for the first time a few days previously. She believed she knew the instant that death took place, and that it was in one of her most violent pains. The tumour lost its natural feel, and, as she expressed it, spread itself out over the bowels and felt flabby and dead.

My prognosis was extra uterine pregnancy,—that at the second conception there had been a uterine and an extra-uterine conception.

I endeavoured to address her understanding by presenting our theory of conception, and also the probable cause of extra-uterine conceptions. That from some cause the passage of the right Fallopian tube had been obstructed, probably from inflammation at the time of the suppression of the menses; that the ovarium of that side had remained healthy. I referred her to a case I published in 1842, in the *New York Medical Gazette*, vol. 1, No. 26. She is quite an intelligent woman, and understood the matter with little difficulty. But the case was a different one. Instead of the fœtus having lived only five months this had lived nearly four years. What could be done?

I proposed as the only means that offered a reasonable prospect of success, to perform the operation of paracentesis abdominis, and to extract the tumour. To this she unhesitatingly assented, saying she had already suffered a hundred times as much as she could in the operation; and that she had great curiosity to know the true nature of her case. If there was nothing done she could not live,—if the operation was performed she could but die. I directed a portion of calomel and oil, and fixed on the 2d of June to operate; promising to have in attendance a medical friend with whom I could advise. The day arrived, and my friend was absent. I visited her on the 4th with the intention of having it put off until he would return, or we could select another. She was not willing to have it delayed and suffer another period of pain; said I was the only one who had seemed to under-

stand her case, and she was willing for me to operate without the advice of another. I consented to operate alone.

I made an incision in the linea alba about four inches in length. After cutting through the integuments, linea alba, &c., the knife came in contact with a hard gritty substance, three or four lines in thickness. Upon cutting through this a dark brown fluid was discharged to the amount of three or four quarts. She became very faint, so that I thought best to desist from further efforts. I applied a simple bandage and thus closed the orifice; gave an anodyne and enjoined quietude and a repetition of the morphine next day. The smell of the fluid discharged was not very different from that of the liquor amnii

On the 6th visited her,—found her pretty comfortable,—some more tenderness of the abdomen. The orifice had probably discharged a gallon, and was still discharging. I directed a decoction of senna to move the bowels, to be followed with an anodyne; light diet and quietude enjoined.

8*th.*—Again visited her; found her free from febrile or inflammatory symptoms; pulse weak; and general sinking of the nervous system; the discharge very offensive in smell. Gave 3 grs. of quinine in a little porter, to be repeated once in four hours, and directed antiseptic applications to the abdomen.

10*th.*—Symptoms improved; pulse full and soft; smell of the discharge offensive. Directed 3 grs. sulph. quinine to be given daily in porter, and, if necessary, decoction of senna.

15*th.*—Found her improved; less tenderness of the abdomen; no discharge; appetite good; ordered porter and a generous diet.

24*th.*—Comfortable; appetite good; discharge offensive; less debility; continuation of treatment.

4*th July.*—No particular change; continuation of treatment.

17*th.*—Visited her. On the 15th, while sitting in a chair having the dressing changed, a bone presented itself at the orifice. She took hold of it, turned it, and took it out, and immediately there followed a mass of bones, hair, and putrid matter. She grew faint, and as soon as the matter could be removed was placed on a bed and the bandage properly adjusted, and pressure applied by the hands of an assistant to promote the discharge. They preserved two of as large bones as they could select, and a bunch of hair, some of which is five inches long. The remainder they buried. I had it dug up and satisfied myself that it had been a monstrosity, but did not examine it with sufficient care to enable me to give a description of it that would be interesting.

The discharge, after the main mass escaped, was small, and gradually grew less in quantity and in offensiveness, and ceased altogether in about five weeks, and the integuments closed by adhesion.

I saw her about the latter part of December. Her health had become good. The menses had returned and the only difficulty was a large abdominal hernia. This I have remedied with a truss.

ART. VIII.—*Thoughts on Serous Polyæmia.* By R. E. LITTLE, M. D., Quincy, Florida.

IN the extreme portions of the southern states is to be found a class of diseases which we apprehend is to be rarely met with in any other part of the Union—save now and then in the densely populated cities of the seaboard. We refer to those diseases arising not from a paucity of blood, but from an opposite condition of the system, in which there is an increase of the serous, without, however, a corresponding addition to the quantity of crassamentum, constituting what may properly be denominated serous polyæmia. The state of the system to which reference is made, is usually regarded as essentially dependent on a deficiency in the amount of the circulating fluid, there being at the same time an unnatural proportion in the relative quantity of each of its constituents, but which we are convinced is to be attributed to the cause assigned above, an unhealthy increase in the quantity of blood, with a modification in the usual proportions of serum and crassamentum. A comparison of the symptoms of anæmia, limiting the term to that condition of the circulatory system to which it is intended to apply, and that opposite state to which it is also applied, without, however, a proper regard being paid to a dissimilarity in several prominent pathognomonic symptoms, and the absurdity of applying it so indiscriminately will be manifest. A distinction should be made, otherwise two diseases essentially different are liable to be confounded, and thus produce an unsettled *methodus medendi.* Strangers visiting the southern states, are astonished at the number of pale and bloated faces to be seen, especially among children, faces which attract but little notice from the inhabitants of the country, so long have they been regarded as the result of *an unhealthy location* (malarial), or a *deranged liver*, the latter being the commonly assigned cause. To neither of the above causes, we venture to assert, are they to be attributed—save in a very few cases—an assertion which we are assured will be seconded by a majority of the well-informed and observant members of the profession. During our residence in Florida, we have been called on to treat many cases of what we have denominated serous polyæmia;—the results of observations made during their progress we design presenting in the present paper.

Symptoms of disease are manifested not only in the appearance of the countenance—pale and bloated—but also in the contour of body, the abdomen large, limbs emaciated, and muscles inelastic. The physical appearance of the patient to an experienced eye, indicates the true character of the disease. The slightest exertion produces difficulty of breathing, increased action of the heart, and in a very short time pulsations in many of the larger veins are perceptible, particularly in those of the neck. The

face has a cadaverous appearance, the eyes lose their accustomed brilliancy, suffusion of the cheeks rarely appears, and when it does it is circumscribed: in short the intellectual manifestations (physically) are in a great measure wanting. In the early stages of the disease the pulse is usually small and feeble, occasionally intermittent, but as the disease advances, it is apt to become full, and convey, when felt at the wrist, an idea that the finger is placed on the femoral instead of the radial artery, a phenomenon which disappears, however, a short time before dissolution. The appetite is capricious, at one time ravenous and desiring articles not *usually* esteemed luxuries, such as paper, leaves and buds of trees, pieces of slate, red clay, &c., while again the stomach revolts at anything presented. The breath is fetid, the bowels loose and constipated by turns, and the discharges of an ash colour. Not unfrequently before death, a dropsical accumulation occurs in one or more of the great cavities of the body, and occasionally it is universal.

But the most remarkable features of the disease are the peculiar sounds given out by the larger blood-vessels, both veins and arteries. Bouillaud says that if the ear be applied over an artery, a dull *rubbing* sound may be heard; though feeble, it may be distinctly detected. Aware of this fact, the sounds attendant on the disease in question, when recognized in one of the first patients which came under our care, were not deemed altogether unnatural, but subsequent examinations convinced us, that they were louder and longer than those given out during a state of health, and consequently the result of disease. In every case since treated, stethoscopic examinations have been made, and we regard such sounds as being almost certainly indicative of the existence of serous polyæmia, as they are to be heard very rarely under any other condition either of the blood-vessels or the blood itself. V. S., a boy fifteen years of age, a native of South Carolina, but for the last six years a resident of Florida, presented himself to us as the subject of "liver complaint." His physical appearance at first sight indicated the nature of his disease. A walk of a mile had almost completely exhausted him. His breathing was hurried, pulse 130 and full, the carotids beating so violently as to be visible at the distance of twenty or thirty feet; abdomen large, limbs emaciated, and his face of a cadaverous appearance. He lamented his indisposition to apply himself to any steady employment. A stethoscope was applied to the precordial region; the *bruit de soufflet* was distinctly heard, inexperience leading us to imagine the existence of a contracted state of some of the cardiac orifices. The same sound was heard over the course of the carotid and femoral arteries. At a subsequent examination the *bruit de soufflet* failed to be heard in the precordial region, although it was still clearly to be distinguished in the arteries. In the first instance, the patient had been taking exercise on foot: in the latter he had abstained from exercise for a day or two. A majority of the cases seen have exhibited the same symp-

toms in a greater or less degree, the *rubbing* sound disappearing gradually as the health was restored.

The cause of this grating sound has been attributed to induration of the valves of the heart, a particular vital condition, a spasm or tension of the artery, &c. It *may* depend on either of these causes in some cases, but our own opinion is, that it is caused in all cases similar to the above, by a superabundance of blood, as it is never heard until the disease is considerably advanced. An increase in the quantity of blood demands an increased action of the heart to carry on its circulation; the blood-vessels are consequently unnaturally distended; the distension being greater at some points than at others, and the heart giving a "*coup de fouet*" at each diastole: hence the sounds. The loudest sounds are heard in those vessels nearest the centre of circulation, for instance in the subclavian and carotid arteries. There is frequently a difference between the right and left carotids, the left giving out the loudest sound, which is capable of being increased by pressure moderately applied, or entirely stopped by compressing the vessels between the point where the ear is applied and the heart. Position also influences the intensity of the bruit, an erect posture increasing, a recumbent diminishing it. It is always heard most distinctly when the larynx is in its natural position; drawing it to the opposite side diminishes it, frequently entirely destroys it.

The blood drawn from patients labouring under serous polyæmia, after being allowed to stand for a short time, shows a very large amount of serum, with a corresponding diminution in the quantity of crassamentum, a state of things which we all know must exist when regard is paid to the elements which are used in its formation. To organic chemistry are we indebted for a knowledge of the influence possessed by physical laws over vital phenomena. No one at all acquainted with the late discoveries in chemistry, will for a moment deny the necessity of the inorganic elements of food, and to a partial absence of these, is in a great measure to be attributed the existence of serous polyæmia among children in some parts of the southern country. In the northern part of Middle Florida (in which we reside), the soil is deficient to a great extent in calcareous matter, and here lies the foundation of the evil. The principal bread-stuff of the inhabitants is Indian corn, (which under any circumstances contains less lime than wheat,) and as vegetable matter is influenced in its constituents by the character of the soil on which it is grown, it is obvious that maize cannot be well adapted to the nutrition of the system, wanting as it is in calcareous matter. The same may be said of all other vegetable matter growing in the country. Inferior animals feeding on such material, in a very short time feel the effects of a diet destitute of inorganic elements; they consequently seldom attain their natural growth, and are wanting in that soundness which characterizes those of their species which luxuriate in the pastures of a region rich in

calcareous matter, matter essential to the nourishment of the system. The diet of persons inhabiting a section of country partially destitute of some of the inorganic constituents of the human body, must after a time produce a derangement in the animal economy, the derangement being sooner manifest in the young than in the adult subject, and to a much greater extent. This is manifest in our own immediate neighbourhood; very few of the natives of the country are over twenty years of age, their parents having emigrated principally from the Carolinas. Many of the former suffer greatly from the use of food destitute of inorganic elements, indicated by their pale and bloated faces, while the latter having emigrated after a full development of the system, muscular and osseous, and consequently not demanding so imperatively as their offspring a supply of mineral matter for a healthy action of their system, suffer comparatively very little. Experiments instituted by Chossat, demonstrate the necessity of graminivorous animals being supplied with lime. Pigeons which he supplied with wheat, an article containing but about 2·80 per cent. of lime, became after a time emaciated and finally died, but when lime was added to their food, they increased in plumpness. The bones of those that died exhibited a brittleness not at all consistent with a healthy state of the osséous system, a state of things frequently met with in the human subject during that period, when the process of ossification is going on most rapidly. Dr. Le Conte, in an article recently published on Geophagy, mentions in confirmation of the necessity of inorganic elements in the food of all animals, that the cattle in one of the counties of Georgia, subsist on a species of grass destitute of phosphatic or calcareous matter, and that as a substitute for these principles in their food, are in the habit of chewing bones, which they do with the head elevated, to prevent the saliva from flowing from the mouth, until the bulk of bony matter is reduced to a very small size, when it is rejected as being of no further service. These cattle are lean and of diminutive stature. Removal to a section of country with a different geological formation, does away with the habit, a habit the result of instinct. Upon the same principle may be explained the tendency in *some* children and pregnant women to dirt eating, nature urging them thus to supply the deficiency of, or increased demand for calcareous and saline ingredients in their ordinary food, a habit which experience has proved may be indulged in to a certain extent without invariably causing disease, especially if the subject of it be not confined to a limited number of articles of diet. We are more and more convinced from daily observation of the truth of the experiments of Magendie and others in regard to the necessity of a variety in diet. In the families of those who are in the habit of varying the diet from time to time, cases of serous polyæmia are rare, while in others where the same articles of diet are used for months in succession, the disease is common. So also is its prevalence influenced by the use of the flesh of wild and domestic animals: the former being much more likely to cause an unhealthy state of the

system than the latter. But enough has been said to give an idea of the probable cause of the disease.

The treatment pursued by us is simple, and usually attended with success. It consists in the exhibition of the different preparations of iron, in combination with mild aperients, together with a generous diet, the articles being often varied. When complicated with dropsical accumulations, an addition of diuretics to the ferruginous preparations, are of service. A steady perseverance in their use has seldom failed in our hands, if timely resorted to, in procuring an amelioration, if not an entire abatement of the symptoms.

December 25th, 1845.

ART. IX.—*Enormous Steatoma removed from the side.* By J. M. FOLTZ, M.D., Surgeon of the Fleet, Brazil Station. [Communicated through Thos. Harris, M. D., Chief Bureau Med. and Surg., U. S. N.]

DON JOSE ROMEIN, æt. 54, Capitas of the Isle de Lobos (Seal Island), at the mouth of the Rio de la Plata, received a severe blow, many years ago, while engaged in killing seal, on the left side, equal distance between the crest of the ileum and the lower edge of the ribs. After the inflammation and swelling occasioned by the blow disappeared, a small tumour occupied the seat of the injury, in the centre of the left iliac region; but as it was unaccompanied by pain or any other inconvenience, it received no further attention at the time.

Gradually increasing in size, but without pain, it continued to occupy the same place for about four years, at the end of which time it had attained the size of a large fist, and rested over the anterior superior spinous process of the ileum. The pressure of his pantaloons now gave him some inconvenience, and at times the tumour became painful. Upon arranging his clothing in such a way as to obviate this pressure, the pain subsided, and the size of the tumour was not such as to interfere with the daily avocation of the patient.

The tumour continued to increase at a uniform rate until the present time, now 18 years, when it has reached a most enormous size, extending from the crest of the ileum, to which it is firmly bound, more than half way to the knee; while laterally, it extends from the inguinal region of the thigh over the glutei muscles, part of which it covers.

To enable himself to walk, the tumour is suspended in a broad band, with a pouch, which is secured round the waist, and with this assistance, he has heretofore been enabled to walk without much difficulty. A large *Poncho*, the constant dress of the *Gaucho* of South America, conceals the enlargement; and but few of his friends, until recently, were aware of his deformity.

During the last two months, November and December, the summer of the southern hemisphere, the most prominent and dependent portion of the tumour has ulcerated, doubtless from imperfect nutrition; and at present discharges an offensive pus copiously. The pain at times is very severe, particularly at night, and the patient can only remain in his bed in one position. His general health is also becoming much impaired; probably in consequence of his being prevented from pursuing the active life in the open air, to which he has always been accustomed; with the mental distress and anguish occasioned by the anticipation of long and severe suffering.

He had great repugnance to an operation, as he was apprehensive of dying under the knife from hemorrhage; and he had made up his mind to perish with this disease.

After careful examinations, we felt ourselves able to give him the strongest assurances on this point, as we were satisfied that the femoral artery was not involved. With some persuasion, he finally consented to submit to an operation for the removal of this tumour, which had given him so much distress, and which threatened to render the remainder of his life truly miserable.

The principal difficulties anticipated in the removal of this tumour were the firm adhesions to the fascia abdominalis, dragged down by its weight, its dipping deep into the inguinal region, while its extensive base was almost immovable, owing to the firmness with which it was bound down by the fascia lata femoris; and we were unable to form any opinion respecting its attachments on the lower surface.

On the 18th December, I proceeded to do the operation, assisted by Dr. Bond, a clever American in extensive practice in Montevideo, in the presence of several gentlemen of the town. The patient was placed on his right side, on the edge of a bed, and an elliptical incision made on the outer and posterior aspect of the tumour, commencing at the crest of the ileum, and extending below the middle of the thigh. This incision was fifteen inches in length. The knife was carried as near to the ulcerated surface of the tumour as could be done with safety to preserve the integuments. The skin was found to adhere closely to the sac of the tumour, and it required much careful dissection to avoid piercing the integuments or cutting into the substance of the tumour. After a careful and tedious dissection, this portion was entirely exposed; in doing so a blood-vessel was opened that bled so freely that it could not be arrested, either by torsion or compression, and it was found necessary to secure it by means of a ligature.

A second incision was now made on the inner and anterior surface of the tumour, and the ends brought to meet the first incision, so as to enclose the ulcers and diseased portions of the integuments.

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A second incision was now made on the inner and anterior surface of the tumour, and the ends brought to meet the first incision, so as to enclose the ulcers and diseased portions of the integuments.

On the inner aspect, the adhesions to the skin were not so strong, and this side of the tumour was speedily exposed.

We now proceeded to remove the tumour at its lower extremity, where it rested lightly upon the vastus externus; about the centre of its base an artery, the size of the radial, was divided, and immediately secured by a ligature. In proceeding with the removal, we found the attachments become stronger, consisting of the fascia lata and condensed cellular membrane, until we reached the fascia superficialis abdominis, drawn down from the abdomen, where the tumour had been originally seated. In the separation of these condensed layers, care was taken not to permit any portion of the tumour to remain behind, and in doing so, the arteria ad cutem abdominis was divided, but the bleeding from it was easily arrested. At this point we were prepared to meet with enlarged branches from the epigastric and external pudic vessels, but they did not present themselves. The head of the sartorius, the tensor fascia, a large portion of the vastus externus, and one half of the Glutæus magnus were left perfectly bare, and were much depressed from the constant pressure of the tumour.

The edges of the wound were brought in contact, and secured with six sutures, cold water dressings applied, and the patient left comfortable in bed enjoying a *segaritto.*

The tumour was a fatty mass, with fifteen inches in its smallest and twenty-two inches in its largest circumference, and weighed six pounds and ten ounces. Upon cutting into it, it proved to be a large steatoma, with tenacious pus burrowing and penetrating throughout its whole extent.

The patient continued to do well until the third day, when he complained of severe shooting pains in the left groin; accompanied with enlargement of the inguinal glands. This alarmed him very much, as he was apprehensive of tetanus, a very common and fatal sequelæ to operations and wounds in this part of South America. Warm fomentations were applied and an aperient draught administered, after which he rapidly recovered without any unfavourable symptoms, being left in charge of Dr. Bond, as the frigate Raritan, to which we are attached, was ordered on a cruise to the northward. On our return to Montevideo, at this season (July) the winter, the time for taking seal, we find him actively engaged in taking those valuable animals, of which from 25,000 to 30,000 are annually taken upon his island, which bears their name.

We will here add, that this city, Montevideo, has been besieged for the last three years. We have visited the hospitals of the besieging army, under President Oribe, as well as those within the city. Few excepting the wounded are admitted in these hospitals; a large majority of whom die from tetanus. This formidable disease has here, as elsewhere, resisted every possible means of treatment, even including amputation, until the surgeons resorted to the use of injections of infusion of tobacco, which has been found exceedingly efficacious. The violence of the spasms are allayed

by the introduction of the tobacco into the rectum; the disease assumes a chronic form, and usually, after a long illness, the patient recovers. The infusion is made very weak—three grains of tobacco to four ounces of boiling water—ft. enema: To be repeated whenever the spasms return. After seeing more of this treatment, and carefully watching the cases, we may be able to give the results more in detail for your extensively read Journal.

U. S. Frigate Raritan, off *Montevideo.*

Art. X.—*On the Topography of Singapore.* By D. C. McLeod, M. D., Surgeon U. S. N. (Communicated in a letter to Thos. Harris, M. D., Chief Bureau Med. and Surg., U. S. N.)

Before leaving China I take occasion to transmit to the Bureau of Medicine and Surgery some remarks on the topography of Singapore, and its advantages as a place of resort for any of our national vessels on this station that may desire to make a healthy port on account of sickness.

This island belongs to Great Britain, and has been in her possession since the year 1819 or thereabouts. It lies between the parallels of 1° and 2° north, and in longitude 163° east of Greenwich. It is situated at the southern extremity of the peninsula of Malacca, from which it is separated by a strait a quarter of a mile wide. The whole island is about twenty miles long and eight broad. Its face is generally level, though there are many pretty elevations resembling in some measure the hammocks of our own southern and western regions, and affording sites for villas and cottages. The town of Singapore is on the south side of the island. The English, Chinese, and Malays have separate localities, the first being in the middle, the Chinese on the west, and the Malays on the east. A narrow river separates the English and Chinese, and a marsh the English and Malays. A verdant esplanade fronts the middle town, and affords a relief to the eye most refreshing to the invalid coming from sea, whilst an agreeable promenade, on foot or in palanquin, enables him to renovate his enervated system.

The supplies for sick and well are abundant, and procured with great facility. Water is obtained from private reservoirs and brought off in "tanks." Flour made from wheat of India growth soon becomes sour, and hence the bread, though excellent for immediate use, does not keep at sea. "Fresh provisions" are got readily and reasonably.

Notwithstanding this place never has the sun more than 24° and 25° north or south of it, and that it has marshes in and around it, yet at this period no settlement in the East Indies has been so free from disease.

Europeans now and then fall victims to coups de soleil from imprudence, and sometimes suffer from dysentery, but the bills of mortality show a smaller number of deaths (including troops) than almost any European or American seaport in the temperate regions.

Catarrhal complaints of an ephemeral nature are not uncommon, but they are too slight to require medical treatment.

The thermometer ranges from 75° to 85° (Fahrenheit); perennial breezes and diurnal showers one-third of the year make a temperature of 80° pleasant and refreshing.

The frigate Columbia, Com. Reed, landed her sick at Singapore and soon became healthy. The crew of this ship, after almost unparalleled suffering, were restored to health in the course of a month without being transferred to sick quarters on shore.

Ships arriving here during the south-west monsoon and bound to China, come generally through the straits of Funda, and pass within a day's sail of Singapore, and vessels coming through the Straits of Malacca pass within sight.

Vessels that come to China during the north-east monsoon, take what is known as the eastern passage, viz., between Java and Borneo, east of the Celebes, and through the Bashee straits; few large ships venturing to beat up the China Sea. For vessels suffering from dysentery, fevers, or cholera in China, no place offers a better climate than Singapore, and the run can be made, with the N. E. monsoon, in eight or ten days.

The anchorage of Singapore is in a roadstead, but so surrounded by islets as to be very nearly land-locked.

This ship lay about three miles from the shore, in seven fathoms water.

The increasing commercial importance of this island makes it the very best point at which the passing events in this part of the world can be soonest heard.

Some not very extended attempts have been made at agriculture, but not with much success. Our respected consul, Mr. Balestier, has embarked in the sugar culture and is sanguine of success. The nutmeg, betel nut, (areca palm,) sago, piper betel, piper nigrum, and most of the intertropical fruits are found on Singapore.

U. S. Frigate Constitution, *Bocca Tigris*, August 20, 1845.

ART. XI.—*Trismus Nascentium.—Its Pathology and Treatment.* By J. MARION SIMS, M. D., of Montgomery, Alabama. [With two plates, and two wood cuts.]

TRISMUS nascentium has always been regarded, and very justly too, as one of the opprobria medicorum. Its causes, remote and exciting, have ever been points of debate and conjecture,—and of its true pathology we have never had any settled opinion. Its treatment has consequently been one of varied empiricism.

Unlike traumatic tetanus, this disease is encountered in every climate and under extremes of temperature. We find it in the Highlands of Scotland, and in the mountains of Switzerland, in the Arctic region of Iceland, and in the tropical West Indies. Large cities, everywhere, that are badly ventilated and crowded with a pauper population, must inevitably be the theatres of its occasional appearance. Wherever there are poverty, and filth, and laziness, or wherever the intellectual capacity is cramped, the moral and social feelings blunted, there will it be oftener found. Wealth, a cultivated intellect, a refined mind, an affectionate heart, are comparatively exempt from the ravages of this unmercifully fatal malady. But expose this last class to the same *physical* causes, and they become equal sufferers with the first. The punctured nerve of a rich or educated man will as soon induce tetanus as that of his poor or unpolished neighbour, but then by his very avocation he is not so much exposed to the danger. So it is with trismus nascentium; the peculiar exciting cause operating on a system predisposed will as quickly produce the characteristic train of symptoms in one child as another.

What an interminable catalogue of opposing and contradictory causes have been urged at different times as the sources of this disease. One has supposed that it was the result of "irritation produced by retained meconium," another attributes it to "cold and a vitiated atmosphere," a third lays it to the fault of "excessive purgation," while a fourth declares it to be owing "only to costiveness." Others have variously attributed it to "injury inflicted by cutting the cord with dull scissors," to "inflammation and ulceration of the umbilicus," "pouring cold water on the head in performing the ordinance of baptism," "the want of swathing or proper bandaging," "the application of scorched linen or cotton to the navel," "the smoke of burning wood," and, in short, whatever other circumstances the writer might happen to fancy or guess at.

It will be my endeavour to point out the peculiar causes of this disease, to explain their modus operandi, to demonstrate the seat of pathological changes, and to deduce a rational course of treatment. And, as I intend

to deal wholly in facts, I will begin by relating a case as the foundation of the remarks that follow.

Mr. Henry F. Stickney's negro woman, Patsey, aged 26, of a light bronze colour, gave birth to twin girls, in July, 1844, which was her fourth pregnancy. On the 15th July, 1845, she was taken in labour with her fifth pregnancy, and delivered about midnight of twin girls again. The birth of the second child was more tedious than that of the first. It was still-born, several minutes elapsing before respiration could be fully established. It was larger than its predecessor by a pound or more. They appeared to be doing very well, till Monday evening, the 21st (6th day after birth), when the second child refused to suck, became restless, and seemed to be unable to open its mouth. On Tuesday it screamed and cried a good deal, appearing to be in great distress, its jaws still closed, with the addition of occasional spells of jerking or spasms. On Wednesday, about 7 o'clock P. M., I saw it for the first time, being 48 hours from the time of attack. Its body was rigid; legs straight and stiff, there being a just balance between the flexors and extensors which held them parallel; the toes everted and heels resting against each other. If the heels were separated and then let loose, they would suddenly fly together like the blades of spring forceps. The arms were pinioned to the sides; the forearms flexed firmly at right angles; the hands clinched tightly; and the jaws were closely locked. The least effort to extend the forearm caused great pain, and excited general clonic spasms. To open the hands was impossible. The expression of countenance was mild and serene, notwithstanding the great rigidity of the body and extremities, till the supervention of clonic spasms, which happened every few minutes, either spontaneously, or as the result of some external exciting agent, such as sound, motion, or the lighting of a fly on its face, when the whole frame seemed to become more rigid, the hands more tightly clinched, with a quivering motion, giving it the appearance of "shaking the fist;" the jaws more closely locked; the head jerked backwards; the lips compressed; the angles of the mouth widely retracted; the eyelids spasmodically closed; the cheeks elevated; thus giving the face a most horrid, old-fashioned, sardonic grin, and all accompanied with a pitiably mournful whining cry. This aggravation of symptoms would last for a few moments, passing off to give place to the former delightfully calm expression of countenance, though not attended by any relaxation of the muscles of the body and extremities. This scene of comparative tranquillity would last but a short time, say from three to fifteen minutes, and then would come on the clonic spasms as already described. Deglutition was somewhat impeded, but not suspended. The condition of the pupils could not be ascertained, in consequence of exciting spasms by any effort at separating the lids; respiration greatly accelerated; bowels costive. It had taken syr. rhei., magnesia, and occasionally tr. opii, but with no effect. Ordered warm bath, cal. oil, and enemata. Found the child worse on the next day, (Thursday,) all the symptoms increased in intensity; ordered "Dewees' Colic Mixture," as an antispasmodic, which was supposed to have exerted some little influence in moderating the spasms. Thursday evening.—Still no better (of course). Gave 2 grs. of quinine in two doses in some of the colic mixture. The child rested better that night, or else the mother rested so well that she could not be disturbed by the motions and moanings of the child, which latter is altogether probable, as I found the little fellow on the next morning (Friday) worse than ever, not able to swallow at all; spasms more frequent; general rigidity greater than at any time before. My friend Dr. Vickers visited the little

sufferer with me this morning. Many experiments were performed to demonstrate, before the Doctor, the reflex action of the excito-motor system and its exceedingly delicate impressibility to the gentlest touch. To show the great rigidity of the frame, I caught hold of the feet and raised the whole body without flexing the thighs on the pelvis. At last I run my hand under the head for the purpose of elevating the body in the same way, when I immediately detected a *remarkable irregularity* in the feeling of the bones. *It had lain during the whole of its illness exactly in one position all the time, the weight of the head resting wholly on the os occipitis.* Its pulse was now uncountable; respiration more frequent than I had ever seen it before under any circumstances; it was breathing 120 times in a minute, and looked as if it could not possibly live an hour. I raised it up to examine the head more particularly and set it on my knee, or rather leaned it against the knee, for the tonic rigidity of the muscles prevented the flexure of the thighs to a sufficient degree for the sitting posture. After holding it so for some ten or twelve minutes, what was my surprise to find a rapid amelioration of all its bad symptoms! True, the tonic rigidity remained the same, but the clonic spasms became less frequent and less intense; the whole expression was less disturbed; and the respiration fell, in this short space of time, from 120 down to 70 in a minute. I now felt convinced that *position* had a great deal to do in the production of this disease. On examining the head, I discovered that the fontanelles were open and very large, particularly the anterior, that the bones were loosely attached by their commissures, and that the *os occipitis was pushed in on the brain, being overlapped for a quarter of an inch or more along the whole course of the lambdoidal suture, by the edges of the ossa parietalia.* I had the child laid on its side, so as to take the weight of the body from the os occipitis. It died about sundown, on Friday, 25th July, having been sick about 96 hours.

Through the kindness of Mr. Stickney, and with the consent of the mother, a post-mortem examination was made the next morning at 10 o'clock. I am indebted to my friend Dr. Ames for the following notes made at the time.

"No emaciation; countenance tranquil; slight cadaveric discoloration of back.

"*Head.*—Anterior fontanelle large, triangular; coronal suture open in its full extent; sagittal same, open to ossa nasi; parietal bones overlap the frontal slightly; the occipital for the fourth of an inch along the whole of the lambdoidal commissure; gentle pressure on the occipital bone projects the brain forwards, producing a considerable fullness of the anterior fontanelle.

"*Brain.*—Superficial vessels full of black blood, *particularly posteriorly.* Interior of the brain natural in appearance.

"*Spine.—Coagulum of blood occupying the spine in its whole length, enveloping perfectly the medulla spinalis; thicker as it approaches the brain. Spinal veins full of black blood.*

"Thoracic and abdominal viscera healthy; nothing unnatural about the appearance of the umbilicus."

Now it seems to me that any one at all acquainted with the physiology of the spinal cord, would certainly direct his researches to it for an elucidation of the peculiar symptoms of this disease, either as the *centric* seat of

pathological changes, or as the medium of communication between some supposed *eccentric* agent, and its consequent effects.

Curling, in his admirable "*Treatise on Tetanus*," tells us that "Dr. Goëlis, of Vienna, in the examination of children who have died of this disease in the Foundling Hospital of that city, found an appearance of *increased vascularity in the substance of and in the membranes enveloping the upper part of the spinal marrow.*" And that Dr. Thompson of Philadelphia had also *observed the same thing.*

M. Billard (Stewart's edition, page 490), says that he "found on dissection *nothing more* (!) *than an effusion of a quantity of coagulated blood in the spine.* This blood was effused between the two laminæ of the tunica arachnoidea, and *filled the whole of the medullary canal from the medulla oblongata to the sacral region.*" And after finding this morbid appearance and no other, he gravely asks the question, "Were the symptoms of tetanus to be ascribed to this hemorrhage of the spine?" What more did he want to account for the distressing symptoms and fatal termination of the disease than this "hemorrhage of the spine?" Did ever cause and effect stand more intimately connected? Is not the presence of this effusion a sufficient explanation of all the phenomena of the disease? Are not the tetanic spasms the very result that we would reasonably and almost invariably calculate on finding in "spinal hemorrhage?" I think so. And, as the real character of this affection has evaded the efforts of all pathological inquirers—Goëlis, Thompson and Billard being the only writers that I can find who agree on any single point relating to it—and as my observations are wholly corroborative of theirs, I must here insist that the true seat of the disease is the spinal canal; that its *morbid anatomy consists, first in a congestion, and then in a rupture of the minute veins and capillaries of the medulla spinalis;* that this is the special and pathognomonic feature of the disease, while every other alleged cause and explanation of symptoms are but mere coincidences.

The next question that naturally arises, is, what produces this venous congestion and capillary rupture, this effusion of coagulated blood, this *spinal apoplexy*, if I might be allowed to apply a term significant of the abnormal appearance? I answer that a simple and ample explanation may be found in the anatomical peculiarities of the fœtal cranium, and spinal circulation, in connection with the imprudent and careless habit in mothers and nurses of allowing infants to remain too long in one position. The imperfect ossification of the cranial bones is *essential* to the production of the disease, while the *position* of the child is its accidental or exciting cause.

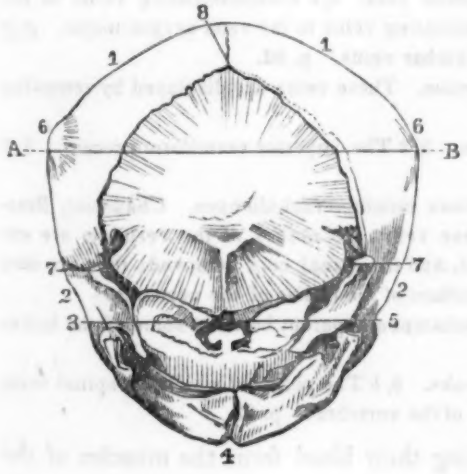
I shall leave out of consideration all those circumstances and agencies which have always been regarded as exercising a remote or predisposing

influence over the development of this disease, and engage at once in the demonstration of the above proposition.

And first of the fœtal head.—At birth the bones of the cranium are very thin, without diploe, attached only by membranous interstices, called commissures; which is certainly one of the wisest provisions of nature in thus fitting it to be accommodated to the dimensions of the pelvic cavity.

What are the anatomical peculiarities of the os occipitis? Why, it is composed of four separate pieces at birth. "The first and largest extends from the beginning or angle of the lambdoidal suture to the upper edge of the great occipital foramen. Each side of the foramen and the condyle on it is formed by a distinct piece. The front part is formed by the cuneiform process, which is separate from the other parts and forms the fourth piece."—(Wistar.) The posterior fontanelle occupies the point of junction between the sagittal and lambdoidal sutures: the lambdoidal suture separates the occipital from the parietal bones. At the juncture of the temporal with the last-named bones, we have another fontanelle, called the mastoid or posterior lateral. From the lower end of this fontanelle, just behind the foramen lacerum, a line of division from imperfect ossification may be seen running obliquely to the posterior edge of the foramen magnum, thus separating the "pars occipitalis" from the "pars condyloidea." Now, by this arrangement, we see that the "pars occipitalis" is, as it were, perfectly isolated from all solid or bony union, having only a membranous connection above and a semi-cartilaginous one below. This is a provision of nature to diminish the vertical and biparietal diameters of the head during the process of labour: for in every labour the "occipital portion *always slides beneath the parietal, however slightly the head may be compressed.*"—(Moreau.) For the better elucidation of this description let the reader cast his eye for a moment on the accompanying wood-cut, copied from "*Moreau's Practical Midwifery.*"

Fig. 1.



1,1. The two Parietal bones. 2, 2. Posterior part of the temporal bones. 3. Condyles of the occiput. 4. Inferior maxillary bone. 5. Foramen magnum occipitis. 6, 6. Parietal protuberances. 7, 7. Posterior lateral fontanelles. 8. Lambdoidal suture. A, B. Biparietal diameter.

I would next direct attention to the peculiarities of the spinal venous circulation.

The veins of the spine may be divided into four classes, viz., those proper to the vertebræ; those exterior to the spinal canal; those within the spinal canal, but exterior to the dura mater; and those within the dura mater, resting on and belonging properly to the medulla spinalis. The first are called *vertebral* veins; the second, *dorsi-spinal;* the third, *spinal* when beneath the vertebral arches resting on the dura mater, and the *great spinal veins* or *meningo-rachidian* when found between the anterior face of the cord and the bodies of the vertebra; and the last are called *medulli-spinal*, as they take up the blood which has been expended in the nutriment of the medullary substance of the cord. For the better understanding of this subject I must refer to Plates III and IV, copied from Quain and Wilson's Anatomical Plates.

Plate III. Fig. 2. Represents the "Dorsi-spinal veins. This view is obtained by removing all the muscles of the back, together with the soft parts of the head and neck, the ribs and iliac bones.

"*a, a* Venous branches ramifying upon the inferior surface of the occiput; communicating below with the cervical dorsi-spinal veins. *b, b* The mastoid vein at each side. *c, c* Lateral branches of the cervical dorsi-spinal veins, communicating with the vertebral veins. *d, d* The small vein which passes through the foramen in the transverse process of the last cervical vertebra. *e, e* Venous branches from the surrounding muscles, which supply the dorsi-spinal veins."

Fig. 3. "The spinal veins beneath the vertebral arches, which receive the blood from the dorsi-spinal. To obtain this view the posterior part of the occipital bone, and the arches of all the vertebræ and sacrum are removed.

"Nos. 1, 1 The dura mater covering the lobes of the cerebellum. 2, 2 The dura mater of the spinal cord.

"*a, a* Veins ramifying upon the exterior of the dura mater. *b, b* Veins in the cervical region, so numerous as almost to conceal the dura mater. *c, c* Veins passing out from the spinal canal through the intervertebral foramina, and pouring their blood into the vertebral and deep cervical veins. *d, d* Communicating veins opening into the superior intercostal vein. *e, e* Communicating veins to the vena azygos minor. *f, f* Communicating veins to the vena azygos major. *g, g* Communicating branches to the lumbar veins." p. 82.

Plate IV. Fig. 4. "The *medulli-spinal veins.* These veins are displayed by removing the dura mater.

"Nos. 1, 1 The lobes of the cerebellum. 2, 2 The superior vermiform process. 3, 3 The spinal cord."

Fig. 5. "The great spinal veins (veines meningo-rachidiennes. Chaussier, Breschet). To obtain a view of these veins, the arches of the vertebræ are cut deeper than in the former sections, and the spinal cord removed; they are then seen resting upon the posterior surface of the bodies of the vertebræ.

"Nos. 1, 1 The line of intervertebral substance apparent between some of the bodies of the vertebræ.

"*a, a* The two great lateral venous trunks. *b, b* The points at which the spinal veins receive the blood from the bodies of the vertebræ." p. 83.

The *dorsi-spinal* veins receiving their blood from the muscles of the

Fig. 2.

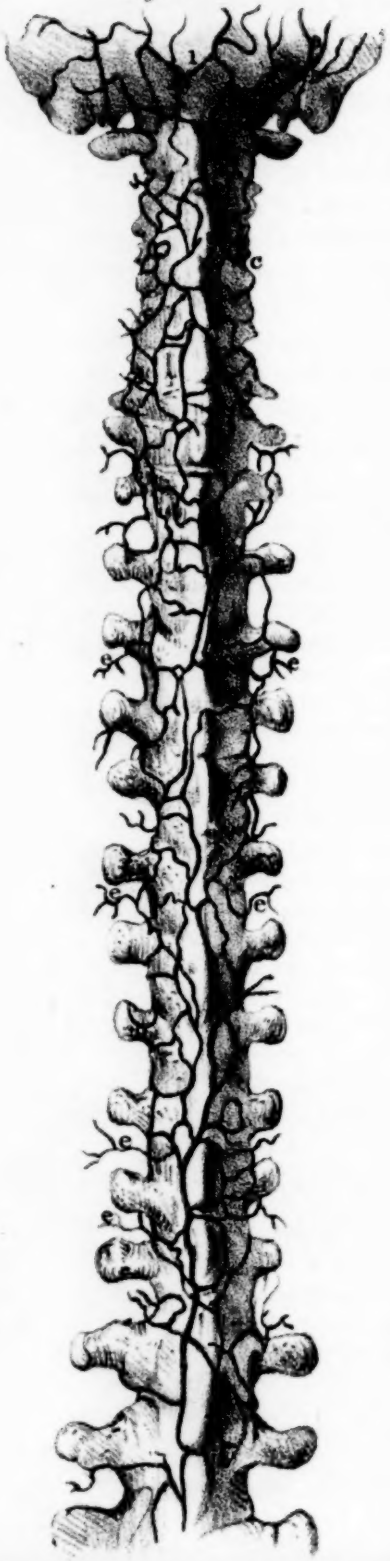
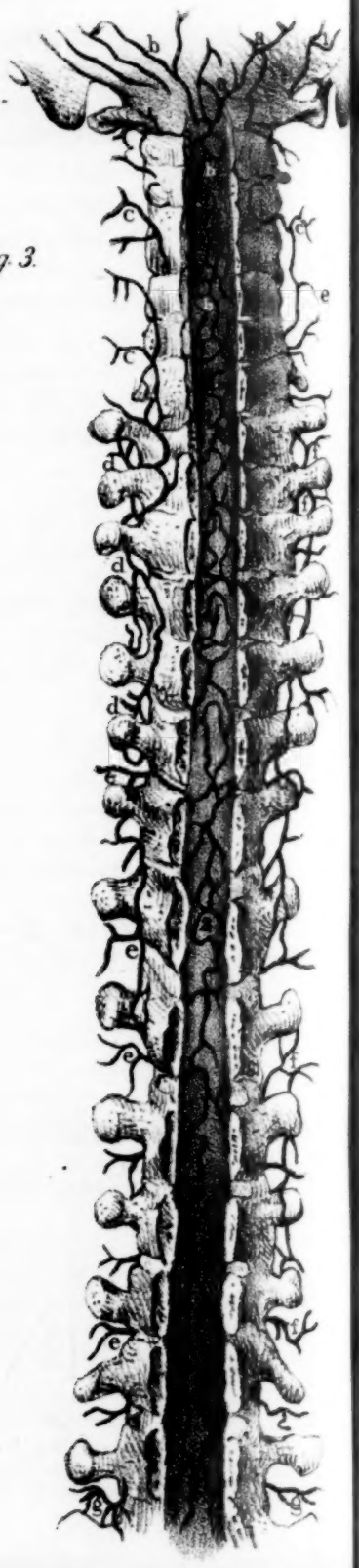


Fig. 3.



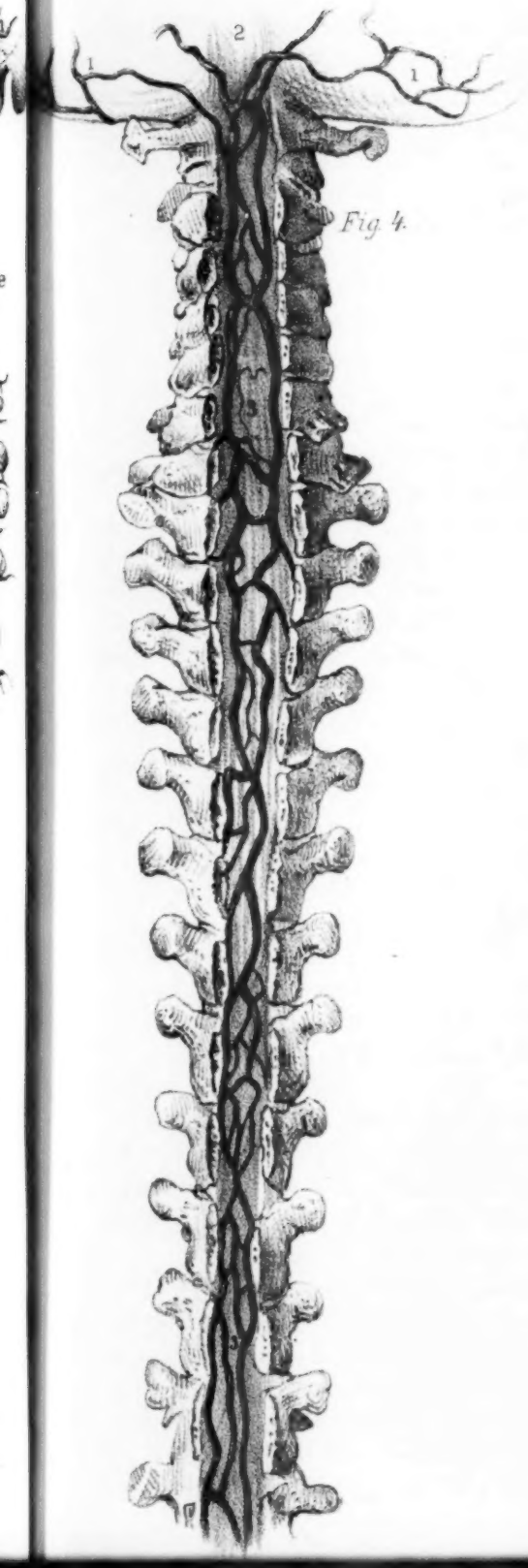
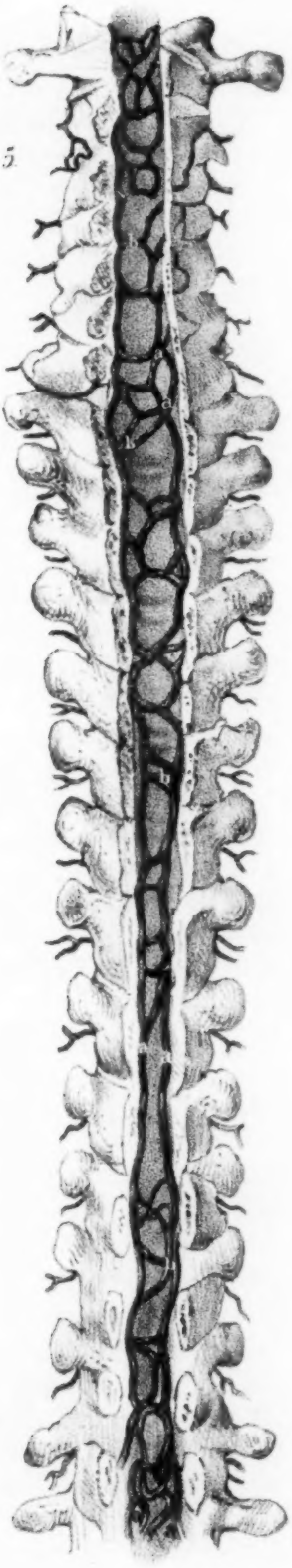


Fig. 4.

Fig. 5.



Lith. of Sinclair, Philad.a

back, empty it horizontally forwards between the vertebral arches into the *spinal* veins as they lie on the spinal dura mater. The *meningo-rachidian* lying between the cord and the bodies of the vertebræ become the recipients of all this blood, and carry it forwards into the general current of the circulation by transverse branches emptying respectively into the vertebral, superior intercostal, vena azygos, (major and minor,) and into the lumbar and sacral veins. These chains of venous trunks run longitudinally the whole length of the spinal column and yet their contents are passed mostly horizontally forwards.

Now let us turn our attention for a moment to the *medulli-spinal*, as they are more particularly the seat of lesion. "These appertain *solely* to the spinal cord and its nerves, upon which they are placed, enclosed within the tube of the dura mater. Though they communicate by branches with the other spinal veins, they cannot be injected concurrently with them." "*The coats of these veins are exceedingly thin and weak.*" "*They are very small, long, and tortuous; they run upon both surfaces of the cord, where they form a diffused plexus or network*, by mutually giving and receiving branches. The general direction of these vessels is from below upwards, but still they do not increase as they approach the base of the skull. On the contrary, their size is smaller than in the lumbar region. This arises from the fact, that the blood brought into these superficial vessels by the small veins which open into them from the substance of the cord is sent outwards directly by the branches which accompany the nerves towards the intervertebral foramina, when *they pour it into the great spinal veins.* Near the base of the skull the medulli-spinal veins unite and form two or three small trunks which maintain by transverse branches, communications with the vertebral veins, after which they *terminate in the inferior cerebellar veins or in the petrosal sinuses.*"—*Quain & Wilson*, "Vessels of the Human Body," p. 85.

So much for the anatomy of the parts connected with the pathological state. Now let us see if this extravasated blood in the spinal canal can be accounted for upon any known principles or general laws of physics. The rationale is simply this.

The head, by the labour, is elongated in the occipito-frontal diameter to its greatest possible extent, and it is consequently diminished in its vertical diameter to its smallest dimensions, by the parietal bones overlapping the occipital through almost the whole length of the lambdoidal suture. The edge of the occipital is *always* forced up under the edges of the parietal at the posterior fontanelle *in every labour.* There is not an exception to this rule. Now, as the parietal are compressed laterally, to diminish the biparietal diameter, they exercise a degree of traction over the "pars occipitalis" (independently of the forces acting on it from behind), drawing it upwards in a line towards the anterior fontanelle, and thus shortening the vertical diameter. After birth, the bones of the head gradually acquire their proper relative position: the head loses measurably its elongated

shape; its vertical diameter increases; the occipital slides slowly from under the parietal; the frontal become more prominent; and the whole cranium assumes the normal oval appearance that of right belongs to extra-uterine life.

Now, suppose the fœtal cranium is not sufficiently well ossified to regain its proper shape by its own inherent elasticity; or, suppose the child is imprudently retained for a length of time in the recumbent posture on a hard matress, or a folded blanket with a little bit of hard old quilt, or a bunch of dirty clothes, (as we often find amongst negroes,) wadded up and stuck under the occiput, what will be the consequence? Why, the occipital bone, instead of regaining its proper position, will be pushed further under the edges of the parietal; and the whole weight of the head resting on the occipital protuberance will thus force the *entire* "pars occipitalis" upwards. If this condition is persisted in, the whole cerebral mass will be displaced; the cerebellum will be compressed between the fossæ cerebelli and the tentorium; and it will thus be tilted forwards so as to produce great pressure on the whole tract of the medulli oblongata as it rests on the basilar process of the os occipitis. What is the result of this long-continued mechanical pressure, with its peculiar displacements? The circulation through the sinuses and veins of the brain is retarded; the compression of the cerebellum obstructs the cerebellar veins; the posterior edge of the foramen magnum becomes a constricting point on that portion of the medulli-spinal veins which empty their blood into the inferior cerebellar; the force communicated to the medulla oblongata powerfully obstructs that portion of the medulli-spinal veins which run forwards over the anterior or lateral edges of the foramen magnum to empty themselves into the petrosal sinuses; and thus the spinal venous circulation as connected with the brain is entirely cut off.

What is the consequence of this constriction, this ligaturing, as it were, of the medulli-spinal veins? Why, at first, there is a simple venous congestion within the dura mater of the cord, produced exactly in the same way that we effect it in the veins of the hand and forearm in the ordinary everyday operation of venesection. After a while the *long tortuous network of thin delicate medulli-spinal veins* is overcome by the persistent constriction above; the blood is extravasated within the dura mater of the cord, enveloping the medulla spinalis perfectly; and then we have the aggravated symptoms that always mark this infallibly fatal stage of the disease.

What is the reason that extravasation does not take place as soon as the constriction is made at the edges of the foramen magnum? Because the medulli-spinal veins communicate by transverse branches with the great spinal lying exterior to the dura mater, and thus the blood is carried into the general circulation by their anastomoses with the vertebral, intercostal, azygos, lumbar and sacral veins. But let the child remain long in this position and this collateral circulation becomes obstructed. By force of

their proper relative position: the head loses measurably its elongated

gravitation the spinal veins all become congested; there is no vis-a-tergo to drive the blood horizontally forwards, or, I should say (as the child lies on its back), perpendicularly upwards; it almost ceases to flow; and the medulli-spinal ligated above and damned up on all sides, having no outlet for the blood brought down by the anterior and posterior spinal arteries, must necessarily very soon yield and pour out their contents within the tube of the dura mater. To my mind it is clear that the assemblage of symptoms constituting trismus nascentium is the result of pressure on the spinal cord exerted by venous congestion and extravasation; and it is equally clear that this effused blood is produced in the way that I have described.

Here would be a very good place to draw this paper to a close, but as my explanation (not theory) is to be established or disproved by an observation of facts, I must beg to relate a few cases that I have gathered from reliable sources, as touching the points of *bony displacement and dorsal decubitus.* And I will here transcribe a letter from my friend Dr. Thos. C. Boswell, a gentleman of rapidly (and deservedly) increasing reputation in his profession. His style is so easy and graphic that I prefer giving it in his own words, and I am sure he will excuse the liberty I have taken with what I know he considered *private*, as it so admirably elucidates the subject.

Pike County, Alabama, Dec. 13th, 1845.

Dr. Sims.—Dear Sir.—Rather a novel occurrence fell to my lot yesterday. Being somewhat unwell, and lounging about the fire side in the family circle, your notions relative to the pathology of trismus nascentium occurring to my mind. I commenced quizzing my wife about her early treatment of our babes, their position, whether on the back, side, &c., which greatly excited her curiosity to know the cause of my interrogations, and just as I was on the eve of an explanation I heard at the gate "Hallo, is the Doctor at home? Mrs. P—— wishes you to go immediately to see her infant; it has been having fits ever since midnight." It was now 3 o'clock, P.M. I instantly conjectured that it must be a case of trismus nascentium, and accordingly when I arrived found it so. The grandmother said "the child had been made drunk the over night on *toddy* for the colic, that it was now much better; that they had only sent for me to gratify her daughter, and that nothing else was the matter with it." I was not disposed to adopt the old lady's notions of "toddy" and "colic," and after observing the little sufferer for a short time I discovered that it had all the symptoms of trismus in its worst form. I took your precaution and examined its head; *found the occiput considerably pushed in and overlapped by the ossa parietalia*, and all the sutures open, precisely as you had described to me. On inquiry *found that it had been laid on its back ever since its birth*, (it was now thirteen days old,) and rested principally on the *mother's or grandmother's arm, and was now held by the latter with the occiput resting on her arm*, being watched most intensely, for it was the first-born, and idolized by them both. They took great pains to inform me that every kindness had been paid the child, and that nothing had been neglected, which I doubt not. I replied that we sometimes did our children an injury by too many kindnesses.

I recommended a change of position, (but alas! too late!) and of course you know that I had to prescribe something after riding six miles in the rain; so I poured out some olive oil and told them to feed it on that, having determined to do no harm as I felt confident I could do no good. I soon discovered that deglutition was very imperfect, so I requested them to let the little fellow rest awhile. I had an interview with the grandfather, and explained to him the nature of the disease and its inevitable termination in death.

About midnight it died, evidently of trismus, having been sick about twenty-four hours. It was well and had been doing finely up to the time of attack.

It was a case in which I dared not suggest a post-mortem examination, though I have not the least doubt but your pathology will hold good in those cases. This is the first of the kind that has fallen under my observation, and feeling my indebtedness to you, I take this early convenience of communicating to you the particulars of the case; for I am sure that I should have been at a loss to account for the disease, the meconium having been well passed off; the remains of the umbilical cord having fallen off, and the umbilicus in fine condition. I could trace no other cause than that described by you.

With respects, &c.,

THOS. C. BOSWELL, M. D.

Dr. Boswell's case was produced at rather a later period than usual (thirteenth day), but *it was clearly the result of occipital displacement by prolonged dorsal position.* Change of position did not save the child, because there was already organic lesion. But the uncle of the child, Mr. Dennis, informed me to-day, (Dec. 28th,) that he was with it when it died; that the change of position effected an amelioration of its symptoms; that it got so it could swallow pretty well, and that it looked so "pert" the parents began to entertain hopes that the Doctor might be mistaken in his prognosis. They soon discovered the fallacy of their hopes, for while the change of position relieved the stagnated circulation of the brain, it could not remove the *extravasated* blood from the spine.

Here is another case corroborative of my views. It is related by my brother-in-law, Dr. B. R. Jones, of this vicinity, a gentleman of high standing and reputation in his profession. He says:—

"I visited a negro child, about a week old, on the plantation of J. J. Marshall, Esq., in September last. It had been affected with symptoms of trismus for a day or two. When I saw it there were great rigidity of the muscles of the extremities, and a disposition to opisthotonos, and when clonic spasms came on there was great distortion of the muscles of the face, which seemed to be expressive of intense pain.

"I observed that *it was lying on its back with some coarse cloth doubled up under its head.* The overseer said *he always found the child lying on its back.* Examined its head and *found the os occipitis pushed deeply under and overlapped by the parietal bones.* I directed a change of position (according to your theory of the production of the disease), and ordered a cathartic and some antispasmodic. In consequence of a press of professional engagements at the time I did not see the child for 48 hours. The mother had kept it lying on the sides all this time as directed. I was surprised to see the relative position of the bones completely changed, for

now the two parietal bones were sliding by each other along the sagittal suture, while the occipital was riding over the edges of the parietal. It died this evening, having been sick about four days. Having no instruments with me I made a hurried and very imperfect examination of the head with my pocket-knife. Bones as last described; sinuses and veins on the posterior portion of the brain filled with black blood; regret that I had no facilities for opening the spine, but am satisfied from my observation of this case that your notions of the pathology of the disease and of the causes operating to produce it will hereafter be fully established by accurately observed, and faithfully recorded facts.—Yours, &c.,

"B. R. Jones, M. D."

Dr. Jones' case was plainly produced by *position* and *pressure* on the occiput, and, like Dr. Boswell's case, change of position could do no good because it was done too late. The great readiness with which the bones here were displaced by turning the child on its side would seem to militate against change of position to cure the disease even when done before extravasation is effected. Not so, however. On the contrary, it is the strongest evidence of what may be accomplished in a short space of time simply by change of position. It shows what a powerful agent we have to wield, which may be a dangerous one if incautiously used. Suppose this child's head had been placed on a *very nice soft pillow* of good feathers exercising a diffused and uniform pressure on the parietal protuberances, instead of having "*a piece of coarse cloth doubled up under the head,*" supporting but a single point, acting on a single point, and thus dislocating the bones with as great certainty as if it had been lain on a brickbat or a stick of wood. Would the bones of the head have been so awfully displaced? Most assuredly not. Let any man lie down with a hard inelastic substance under his head and try the experiment of sustaining its weight on a single point, and he will very soon get the *fidgets* if he does not continually vary his position a little so as to get a new point of support. But let him take the same substance, whether wood or stone, and make it to fit exactly the shape and size of the head as it rests on it, and he will be able to lie there for hours, because the pressure is diffused and affords a general support.

Here is another case tending to establish the fact of occipital displacement.

Anna, black, aged 17, gave birth to her first child about a year ago. I was called to her when she had been in labour twenty-four hours or more. Presentation, &c., all right, but as the case promised to be tedious, my other professional engagements, and the distance from town prevented me from waiting the result. I had to leave her in the hands of an old negro woman, telling her not to interfere and all would soon be well. The labour was terminated in two or three hours after I left, but the child was still-born, and the respiration was not established for some eight or ten minutes. The mistress, who is a woman of very good common sense, says that "*its head was mightily mashed;* the bones seemed to be loose. I got it to take a little boiled milk on the first day, but it swallowed very little and

very badly, for its jaws seemed to be locked. On the next day it took spasms and got stiff all over; its hands were shut up tight, and its arms *were bent up so.** Every time I would touch it the spasms would get worse all over, screwing up its face till it was the ugliest thing in the world, and when the spasms went off it looked as well in the face as any new-born baby, but then the stiffness never left it, and the spasms kept coming and going till it died." It lived but two days. I have reported this case exactly as it was related to me by the good mistress, because I believe her narration of it is one of the best descriptions of the assemblage of symptoms constituting trismus that can be found anywhere.

In this case the compression of the head by the tedious labour, fell a little short of the point necessary for the extinction of life; and yet it was sufficient to produce such a degree of occipital displacement with its attendant evils, as to occasion the almost instant appearance of the symptoms of trismus, for it was born, as it were, with the disease. As the head was detained for many hours in the pelvic cavity, it did not need the assistance of dorsal decubitus for the production of the mischief.

I will relate but one case more in evidence of the general, and (as I think) almost essential state of occipital pressure as the exciting agent of the spinal hemorrhage; it is certainly the most interesting case of all, because it illustrates the efficiency of the treatment which every one would immediately recommend who is disposed to adopt our notions of the pathology and our rationale of the production of this affection.

The treatment, as a matter of course, resolves itself into the most rigidly careful prophylaxis. After the extravasation of blood the little sufferer must almost necessarily perish. Possibly the application of blisters to the spine would do some good in conjunction with proper posture. But to the case.

On the 11th of July last, Mrs. B. C. O—— lost her only child, an interesting little girl of some twenty months old. It died of acute hydrocephalus. On *Thursday, 22d August*, she was fortunately delivered of a second child, at full term, a delicate-looking girl, weighing, I suppose, about five pounds. There was nothing unusual in the labour; and the child appeared to be doing well for the first week. On the tenth day I was sent for to see it. The mother said that for two days it had been sleeping more than infants usually do; in fact, that it could not be roused at all; and that it made a very peculiar and distressing noise while asleep; that she could not exactly describe it, but it was precisely such a noise as the other babe made in the latter part of its illness; and that she was therefore very much alarmed for fear it was contracting the same fatal disease. This noise was so disagreeable as to wake her frequently during the night; and as it was sleeping in her own bed, she supposed at first that Mr. O—— must have lain his arm on the child's breast, so as to disturb its breathing; and was surprised at not finding it so. The child *was lying on its back* on a pillow, its *head resting on the occiput*. She moved it with the pillow higher up towards the head of the bed, retaining it, however, in the *same position*, but this singularly unpleasant noise ("which was more like something *a*

* An allusion to the flexure of the forearms at right angles.

dying,") was still occasionally produced. This was observed in the day as well as at night. She said that it had refused the breast for two days; that its jaws could not be separated but by slow degrees and with the greatest difficulty; that when she would try to force the nipple into its mouth, the jaws would remain clinched; and that the nipple was nearly compressed between the lips; that it could not effect any degree of *suction*, but only made a kind of *kissing noise*, by drawing the air between the nipple and upper lip; that after one or two efforts of this sort it would appear to be perfectly exhausted; that she had not succeeded in getting it to make the least endeavour to draw the breast to-day, and that it only tried twice on yesterday. She observed that it would occasionally throw its hands mechanically towards the head "exactly like the other baby did;" and to-day she noticed that it would have, once in a while, a sort of *little quivering spasms to run all over it*, with "its face all squinched up" whenever a fly would happen to light on it; and that these little shudders would come on it sometimes when *no fly was to be seen*. Then she would scold the servant for her supposed negligence in either allowing a fly to light on its face or in carelessly touching it with the fan or brush, this being the way that she accounted for the spasms whenever she did not observe them to be produced by a fly.

Its bowels were in good condition; its skin was as fine as silk; its pulse as regular as a pendulum; and it was sleeping calmly, the very picture of ease and innocence.

I hardly think that I should have suspected the true character of the affection, but the mother had the child in her lap when I entered the room, *its occiput resting exactly on the patella of her left knee.* After a minute inquiry into every other particular, I examined the bones of the head and found the lambdoidal edge of the *os occipitis pushed inwards within, and under the edges of the ossa parietalia.* I now felt every confidence that this anatomical peculiarity and the *position* of the child fully explained the secret of the whole disturbance. The mother told me that she had kept it *all the time on its back day and night; and did not remember ever to have placed it upon its side.* I explained to her what I supposed to be the cause of all the symptoms, and directed her to lay the child on its side, so that the weight of the head should fall on the parietal protuberance instead of the occiput. I made no other prescription. She placed the child in bed as I directed and left it, having made up her mind that as it could not be waked up and could not swallow, and as the doctor did not think it worth while to give any *physic*, the case must be perfectly hopeless. But the sequel shows what a sunshine of happiness succeeded the gloomy forebodings of this doting, almost heart-broken mother.

After the change of position it had not one of its former pitiably distressing moanings, and if it ever had another spasm it was not observed. In two or three hours it began to wake up; it took the breast and sucked tolerably well, but not as strong nor as long as it did before it was taken sick. On the next day it was much improved, could open its jaws better and sucked still better, and on the third day it was as well as ever it was before or since. A week afterwards I examined the head and found that instead of the occipital bone projecting inwards on the brain, its position was the reverse, viz., it overlapped very slightly the parietal bones.

Can any one at all conversant with this disease deny that this was a genuine case of trismus nascentium? It possesses many points of interest.

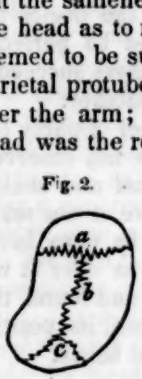
Look at the period of attack, the stupor, the doleful moaning, the locked jaws, the spasmodic excitement resulting from the gentlest impression made on the excito-motor system; look at the occipital displacement in connection with its prolonged dorsal decubitus; see the immediate amelioration of all the bad symptoms effected in the short space of two hours, simply by change of position. And remember that in six days this very change perfectly *evolutionized* the relative position of the cranial bones.

Now if this was a case of trismus, what was the reason that the child did not perish? Why was it so easily remedied? If it had been a negro babe, or the child of parents in indigent circumstances, other things being equal, it would have perished. And why? Because, here it was surrounded by all the comforts of life. It had what every infant ought to have, a soft pillow to rest upon. If it had been retained in the same position on a folded blanket or a hard matress, with some old rags wadded up for a support to the head, it would have been lost: because the same amount of pressure for the same length of time with harder materials would have displaced the occiput more, and produced a constriction on the medulli spinal veins sufficient for the transudation of the blood into the spinal dura mater, and then of course a fatal termination would have been inevitable; but as it was, the pressure was just hard enough to produce an imperfect obstruction, with a simple congestion and stagnation of the spinal venous circulation, which was readily relieved merely by removing the point of constriction.

To illustrate the importance of position in giving shape to the fœtal cranial bones, I must beg leave to continue the history of this case a little further.

After the mother saw the wonderful influence exerted so soon by simply turning the child from the back to the side, she was determined to persevere in the course. She was in the habit of sleeping altogether on her right side, with the child's head resting on her arm, its face towards hers. When it slept during the day it was turned alternately from right to left, but the sameness of position at night effected such a change in the shape of the head as to mould it to the form of the arm; thus the left temporal region seemed to be sunk in just where it rested on the mother's arm, and the left parietal protuberance was enormously enlarged where it hung unsupported over the arm; while the relative development of the opposite side of the head was the reverse, viz., the temporal region was full, the parietal protuberance being rounded off, giving the head somewhat the appearance represented by the annexed diagram. Its head had such a "twisted look" as to attract the attention of every visitor. By directing it to be laid mostly on the opposite side, this deformity has in some measure disappeared, but even now it exists to a sufficiently remarkable degree to be easily perceptible. It disappears slowly because the bones are better ossified now and cannot be so readily moulded into any shape by position and pressure.

Fig. 2.



Since the preceding was written, I have received the following communication from my friend Dr. Boswell. It is a little singular that two cases should have occurred in his practice in so short a space of time: but the cases are so plain that it is impossible to draw any other conclusion than that they were both genuine examples of trismus. Let the doctor speak for himself. He says:—

"In addition to my first I send you the outlines of another case of what I suppose to be trismus nascentium. On Sunday evening, the 28th Dec. last, I was called to see the child of a medical friend. It was six days old. I arrived at 4 o'clock—was informed that the child had been complaining a little during the latter part of the night, having been well up to that time. The father had left home at daylight to be gone all day—not thinking that the child's indisposition was anything of a serious character, he had directed it to have a few drops of paregoric, provided it got no better as the day advanced. They supposed it had the colic and gave the paregoric at 10 o'clock, A. M., but no relief was afforded; on the contrary it grew worse and more restless, and the good ladies became alarmed, supposing they had given it an over-dose of paregoric. It did not sleep, but got more unquiet, notwithstanding the administration of the anodyne. However, it had no symptoms that could be attributed to the effects of opium.

On my arrival it presented the following condition: Its jaws were closed; it had not been able to take the breast during the day; it had some tonic rigidity of the muscles, with the peculiar clonic spasms so characteristic of this disease, which observed great regularity in their return: the child clinching its hands, flexing the arms, and involuntarily drawing them up towards the head: at the same time stretching itself backwards, moaning heavily and most distressingly. It had, too, a heavy frown, with distortion of the muscles of the face. From this assemblage of symptoms I immediately recognized the disease as being no other than that insatiable baby-killer, trismus. I examined the head and found, as I expected, a considerable *displacement of the occiput inwards.* It had been held all day by some one of the many female friends present, and was now in the lap of an old lady, *lying on its back with the occiput resting exactly on her left arm.* Feeling perfectly satisfied in my own mind, in regard to the nature and treatment of the disease, I made no other prescription than simply a change of position. I directed it to be placed on a soft pillow on its (left) side; and I am confident that within one hour there was an evident improvement in all its symptoms; the intervals between the clonic spasms were longer and it showed a disposition to sleep. I now had it turned on the other side, and in a short time it fell sweetly asleep and slept refreshingly, being but seldom disturbed by a paroxysm of clonic spasms. Their intervals grew longer and their duration became shorter till they gradually disappeared. The improvement was apparent to all present. At about 9 o'clock (5 hours after my arrival), it took the breast, which it had refused to do all day; and by 10 o'clock it sucked very well indeed. It rested finely during the night, and next morning it appeared as smart as any child of its age. I saw it some two or three weeks afterwards, and it was doing well."

To any one at all acquainted with the *physiognomy* of the disease, this must appear to be so clearly a case of trismus, that comment would be wholly superfluous.

In dismissing the subject, I must be allowed to express the great degree of gratification I feel, in contemplating the probable good that must necessarily follow from understanding and acting upon the principles set forth in this paper.

I have now related six cases of trismus nascentium, in all of which the peculiar *occipital displacement* existed in a remarkable degree, and in four of them it was unquestionably effected by *position.*

1st. Mrs. Stickney's negro child.

2d and 3d. Dr. Boswell's two cases.

4th. Dr. Jones' case.

5th. The little negro whose "head was mightily mashed." It had the disease from the hour of birth.

6th. Mrs. O.'s child.

Eight years ago I lost a little negro seven days old of this disease. I did not then know anything of the opinions I now hold, and, of course, cannot speak in regard to *occipital displacement;* but this I do know, (for I remember it very distinctly,) that the poor little thing *lay all the time on its back,* in one of those abominable little murderous machines commonly known by the name of cradle.

The truth or falsity of these views can be easily tested, and New Orleans is the place to do it. I appeal to some of my medical brethren there for facts and autopsies on this interesting subject. They have the field for observation and the facilities for post-obit dissections. According to the bills of mortality as published in the New Orleans Medical Journal, they have on an average about twelve a month, the year round, and I doubt not but many more cases occur that are not recognized, or are called by some other name, as "fits," "convulsions," "hives," &c. As touching this point let me relate a case or two.

Vicey, aged 35, the mother of seven children, says, that on the 3d of January, 1845, she lost an infant just seven days old in this way. At 9 o'clock she suckled it and put it to bed. It was healthy and sucked well. At about midnight she was waked by the child "making a noise like it was choking to death." She found its jaws clamped—it was not able to swallow. It cried a good deal—was in great distress. Next morning it had spasms, which were excited by motion or handling. It became perfectly stiff all over. The hands were gripped, and the elbows bent up, so that she had to tear its clothes off before it could be bathed. "The more they tried to do for it, the more its sufferings were increased." It lived about twenty hours. The family physician was sent for, but said he did not understand the disease.

Five years ago this same woman lost a child on the seventh day with precisely the same symptoms. The physician who saw this case pronounced it to be a case of "bold hives."

Esther, aged 30, the mother of six children, lost one, four years ago, on the sixth day. Here is her own narration of the symptoms. It had

spasms for two days and nights. "It made a kind of a little wheezing noise like a kitten." It had a sort of jumping or quivering whenever she would touch it, or when a fly would light on its face. It could suck at first; but on the second day its jaws became locked while it was in the act of sucking, and it never was able to draw the breast after that; and then *severe* spasms came on and "lasted off and on till it died."

The doctor did not recognize the disease.

I have accumulated a host of this sort of cases, but I shall *inflict* no more on the reader. However interesting the subject may be to me, still I know that I have already exhausted the patience of the reader. I have reported these last cases as much to impress a familiarity with the symptoms of the disease, as to show that it frequently occurs when we do not suspect its true character, and, like the other cases, I have chosen to give them pretty much in the unvarnished truth-telling style of the narrators.

I have not built up a theory and moulded facts to suit it: but I have accumulated facts honestly, and endeavoured to explain their phenomena philosophically. I do not expect to carry the same degree of conviction to the mind of any one that I feel myself. If I am wrong, cotemporaneous observers will prove it. If I am right, future generations will feel it.

Art. XII.—*Practical Observations on Purpura.* By John P. Mettauer, A.M., M. D., of Virginia.

This is comparatively an unfrequent disease, and perhaps on that account its intimate pathology and treatment may have remained so long imperfectly understood. It is, nevertheless, a most interesting and important morbid affection, and for that reason we propose in this paper to offer a few considerations relative to its nature and treatment, drawn from our personal experience with it, during a series of years.

Purpura is characterized by a peculiar efflorescence of the skin and mucous lining of the mouth, tongue, fauces, vagina, and very probably of the internal mucous membrane likewise. The efflorescence, as it appears on the skin, and the other parts accessible to observation, consists of reddish, purple, or livid spots, exceedingly variable in size, termed vibices, petechiæ, or ecchymoses; is seldom elevated above the surface on which it appears, and is frequently attended with hemorrhage from various parts of the body, more especially from the mucous surfaces. The spots are occasionally slightly rough, attended with itching now and then, especially when they appear as small red clots. In some cases the spots are slightly tender when pressed on, or if the parts are disturbed by motion. When cut into they are found to contain variable quantities of effused blood.

Purpura seems to be hemorrhagic in its nature, and yet it is to be regarded as possessing qualities which to some extent constitute it a peculiar affection. From ordinary hemorrhage, it is to be distinguished by the universality of its appearance, while that only takes place with a single organ. In many instances the hemorrhage of purpura takes place from the nose, mouth, lungs, bowels, kidneys, bladder, uterus, skin, and into the substance of the organs at the same time. Ordinary hemorrhage is usually attended with more or less acceleration of the pulse, characterized by a peculiar thrill of the radial artery, constituting what is termed the hemorrhagic pulse. In purpura such is not the case, as the pulse is comparatively feeble, and seldom accelerated in any considerable degree.

Purpura has been distributed into three varieties by Dr. Willan; that is, Purpura Simplex, Purpura Hemorrhagica, and Purpura Urticans; but our experience with the disease does not lead us to adopt such a division; as in all of the cases seen by us, the characters by which each of these divisions is to be distinguished were co-existent. On this account it would seem that there is no good ground for the distribution of the disease into three distinct varieties.

The Purpura Senilis of Bateman is only to be regarded as a species of local ecchymosis, or varices of the venous capillaries of the subcutaneous cellular textures, and not a form of purpura, as it is attended neither with fever nor hemorrhage.

The causes of purpura are somewhat obscure, though enough has been ascertained to show that whatever depresses the energy of the blood-making organs, so as to render hematosis imperfect, predisposes to the disease. The best authorities concur in the belief that individuals of delicate constitutions are most liable to purpura. Such is the opinion of Willan, Bateman and Rayer; and our experience confirms their opinion.

When the disease occurs with persons in the prime of life, and when no obvious cause of a debilitating nature seems to have impaired their constitutions, it is probable a lurking debility, or disturbed sanguification and nutrition are the conditions upon which it depends. That the state of the blood, as respects the due proportion of its fibrinous constituent, is concerned in the production of purpura, is rendered exceedingly probable, by the recent researches of Andral. This pathologist is of the opinion that the fibrinous constituent of the blood is in all probability reduced below its normal proportion in every case of purpura, and the opinion is rather supported than disproved by the cases of Doctors Jeffreys, Johnston, Duncan, Combe, Gairdner and Fairbairn. In these cases—the first two especially—the pulse was full and excited, it is true; but in all of them the blood exhibited the buffy-coat without the cupping, which is so characteristic of blood drawn in true phlogosis, and with a semi-fluid and dark crassamentum, such, it is very probable, as we usually meet with in typhoid fever. The buff which was exhibited in these cases could not have been very firm, as

it did not cup; and although not so stated, we have little doubt that it was gelatiniform and loosely held together, consisting chiefly of albumen. The blood in our own cases generally presented a thick buff, but this, as well as the crassamentum, was exceedingly friable and delicate in texture. The buff, too, was of a gelatiniform consistence, and in no instance was it firm enough to bear the weight of the clot in attempt to lift it from the cup with a probe or straw.

Mercury when freely used is occasionally followed by purpura, and very probably by reason of its operation upon the fibrin of the blood so as to depress that important constituent below its normal proportion, an effect now believed to follow the use of mercury when introduced into the economy.

Typhoid fever is also occasionally succeeded by purpura, and doubtless because there is always great depression of the proportion of the fibrinous constituent of the blood during the existence of that fever. We have seen two cases from this cause.

The intemperate use of ardent spirits, and abstinence from food long continued, as well as scant or unwholesome food, are likewise causes of this disease. Intestinal worms, insufficient bodily clothing, and long-continued exposure to a damp and cool atmosphere, have also seemed to predispose to it, and in all probability by reason of the impaired state of sanguification and nutrition induced by them.

Are certain individuals more liable to purpura than others, by reason of hereditary constitutional aptitude? We answer unhesitatingly that they are, and with them the disease is generally strongly tinctured with strumous characters. Sixteen cases of purpura have passed under our observation, and out of this number fourteen of the subjects were decidedly scrofulous, while the remaining two were not absolutely free from strumous appearances; and we are disposed from our observations, to refer purpura to a constitutional origin, connected with scrofulous susceptibility, derived, originally, in most cases from parents.

The intimate nature of the process by which blood is forced out of its proper channels, in the formation of the spots or maculæ of purpura is not certainly known. It is highly probable, however, that "tenderness of the coats of the minute vessels," as conjectured by Dr. Duncan, plays an important part in it. That tenderness, delicacy, or preternatural lacerability should result from impaired nutrition, such as may be supposed to take place in the structures universally, but more especially in the capillary and parenchymatous in purpura, can readily be conceived. The textures as well as the blood are very nearly in the state presented by early infancy. That is, the textures are exceedingly delicate,—easily lacerated, or bruised, because they are nourished and supported by blood abounding in albumen, with comparatively a mere trace of fibrin. Thus organized, it may be supposed that the capillary and parenchymatous structures would give way

during the existence of an impetuous circulation, or even when the circulatory organs are only moderately, or even normally excited, and such giving way would result in hemorrhage from rupture of the capillaries; or relaxation and dilatation of their terminating recurrents, either on the natural surfaces, or within the structures. A morbid or abnormal delicacy of the cutaneous and subcutaneous, as well as the mucous and submucous textures, must exist in those cases in which ecchymoses follow the slightest pressure or motion of the supporting organs. And such a state—a kind of infantile nutrition of the organs—may occur whenever the albuminous constituent of the blood preponderates, or the fibrinous is greatly lessened in quantity, or, in its cohesive energy: and most of the causes which have been enumerated may bring about such a state, and thus induce purpura with any age or constitution. In many respects purpura is closely assimilated to scurvy by its obvious phenomena, and in the present state of our knowledge it cannot be determined that these two diseases are not identical.

The treatment of purpura should be so shaped as to change and alter the condition of the digestive apparatus as speedily as possible, as such change can only connect the peculiar morbid states of the blood and organism—from which the disease results. In all of the cases we have treated, amendment invariably followed salutary changes in the condition of the liver and bowels. The presence of healthy bile in the alvine evacuations, never failed to show that our remedies had made a favourable impression on the constitution, and it was as constantly attended with, and succeeded by, general amelioration of the symptoms. Having early regarded the disease as the product of perverted sanguification and nutrition, our treatment has uniformly been directed to the correction of these processes; and after an experience of more than twenty years we have not found it necessary to change our views, but they have been confirmed.

In the more acute form of the disease, especially in the early stage, a treatment somewhat active has uniformly been demanded in our cases; and such treatment,—having early received the high sanction of Dr. Bateman,—was invariably adopted by us:—and first of blood-letting. When there was much vigour of constitution, and patients were seen early in the disease, whether the symptoms were acute or not, our practice was to let blood from the arm. Sufficient bleeding never failed to moderate the hemorrhage in a measure, and at the same time placed the economy in a more favourable state to receive, as well as to communicate remedial impressions. Persons between the ages of 15 and 45 years generally derived most benefit from the lancet, and without seeming to be enfeebled by the loss of blood. In one case we abstracted ℥xviii of blood at a single bleeding, and repeated the operation two succeeding days to ℥xii with great benefit. In two other cases blood was freely drawn two days in succession, ℥xvi each day, and greatly to the benefit of the patient. With individuals requiring the lancet

in this disease, there would be great uncertainty of impressing their constitutions with medicines, unless previous relaxation had been produced by blood-letting. Should fever attend, and the pulse be strong as well as excited, there could not be a doubt of the propriety, nay, of the necessity of letting blood. With children, or subjects much under fifteen years of age, it would not be safe to bleed freely. In such cases we have generally excluded venesection from our treatment.

2*d*. *Cathartics.*—This class of remedies is in a peculiar manner adapted to the treatment of purpura. After blood-letting, in those cases demanding it, as well as with such as did not require that remedy, we early resorted to free and effective purging. With the older description of patients, that is, from 15 to 45 years of age, we generally employed calomel in combination with aloes, jalap, or rhubarb, and one grain of ipecacuanha to each dose. This compound was found to adapt itself in a peculiar manner to the treatment of cases occurring with pretty robust constitutions, though it was well suited, likewise, to examples of a different class. Daily purgation was required for two or three times; and then on alternate, or, once in two or three days, or as the cases seemed to require. In every case the purgative dose was so divided as to have one-third of it administered at bed-time, and the remaining portion the succeeding morning. This division of the dose rendered the remedy more recurring in its action, while it also effectually emulged the liver, pancreas, and muciparous follicles of the intestines. In many instances, too, it produced diaphoretic effects. Early after its action, especially if consistent and free evacuations were procured by it, there was invariably an arrest, or abatement of the hemorrhage, as well as of the formation of fresh ecchymoses. The tongue, too, which is generally pale, and coated with a whitish fur and adhesive mucus, was soon changed in appearance and made to assume a more natural aspect. Another effect equally salutary usually followed purging, which was, the brightening of the countenance, and a more cheerful state of the patient's mind. All of the cases of purpura we have seen were distinguished by depression of spirits, and utter aversion to business; as well as by a disposition to sleep more than usual. With most patients, too, there was, throughout, an unwillingness to converse, nay, there seemed to be an inability to do so, from enfeebling of the intellectual powers, which we think is an invariable attendant symptom of purpura.

With young patients, especially those from four to eight or ten years of age, we found calomel and rhubarb the best purgative for a few times; or blue powder. The plan we adopted with these subjects, was to give suitable portions of the mercurial at night, in combination with minute doses of ipecac., to be followed by the rhubarb in substance, or in the form of syrup the next morning. After two or three purgings, and especially if the symptoms assumed a better condition, the mercurial was omitted at night, and in the place of it a suitable dose of the rhubarb, either in sub-

stance or syrup, was administered, merely to excite the intestines very moderately during the night, to be succeeded the next morning by a purgative portion. This last plan we found admirably suited to the younger description of patients. In every case, with young as well as older subjects, we found it necessary, occasionally, to interpose a mercurial as the actions of the liver became languid, and the secretion of bile defective during the treatment. During the advanced treatment it will not be proper to act upon the bowels more than once or twice effectually during the days of purgation.

When the appetite was much impaired, and the action of the liver, under the influence of the purging plan just presented, unsteady and imperfectly restored to a healthful condition, we derived great benefit from the internal use of the nitro-muriatic acid mixture given in the ordinary doses. This remedy is well adapted to the treatment of purpura under such circumstances; and it is pleasant to take, as well as exceedingly beneficial as a curative agent. Even with young subjects it may be safely and beneficially used; but the doses should be small, not to exceed six drops. Our rule has been to commence with two drops, and very gradually to augment the dose to six, taken two or three times a day, properly diluted with simple or sugared water. In some instances we have given it in lemonade, for which most persons have a fondness; and thus administered it is effectually disguised. The improvement under the use of this remedy is generally indicated by a return of appetite, cheerfulness, a better condition of the tongue, and more healthful appearance of the alvine discharges. The hemorrhage, too, is sometimes restrained by it, as well as the disposition to ecchymosis.

The diet usually allowed in this form of the disease was rice, coffee, chicken-soup, molasses and mush, butter-milk, ripe fruit, and such like substances. It was a constant injunction with our patients to guard against variable temperature, and the ordinary causes of catarrh, and to breathe fresh air freely. If the weather was suitable, and they were able and desirous to do so, we allowed them to go out of doors, nay, even to exercise moderately. The free use of acid beverages, especially lemonade, or vinegar and water sweetened, was found highly beneficial and refreshing to patients, and all of them used them more or less freely during the treatment.

When the disease proved obstinate, or when called to attend cases at an advanced stage, we found it necessary to associate supporting measures with purgatives. In these cases tonic astringents were found highly beneficial. The muriated tincture of iron was administered at this period with much advantage. With adults it was given in doses of from six to ten drops three or four times during the twenty-four hours, properly diluted, while from two to six only were administered with younger patients. At this period the muriated tincture was used in the place of the nitro-muriatic

acid mixture, even if the biliary secretion was defective, as it in some degree, besides its tonic action with the organs of sanguification, exerts a secerning agency with the biliary organs through the presence of chlorine entering into its composition; and it was used indiscriminately with young and older patients. There can hardly be a doubt that the muriated tincture of iron, in this disease, acts both upon the liver and blood, as both are invariably ameliorated by it, and in marked degrees. In several cases in which we employed it we carefully inspected the blood before and after its use, and we found that there was a manifest improvement in the condition of the blood after it had been employed only one or two days. As means of imparting tone in such cases, we have also experienced benefit from bark, columbo, and the wild cherry bark, prunus Virginiana, used in cold watery infusion. We have, too, derived much advantage from porter as a tonic stimulant, and nearly in equal degrees with all ages.

From astringents we have never yet known any benefit to result in this disease, though we can conceive that they might, under favourable circumstances, be productive of good effects. When diarrhœa, or great laxity of the mucous lining of the stomach and bowels exists, the internal employment of astringents might be serviceable. In such cases their combination with tonics would prove beneficial, as, at the same time that they would restrain the bowels, tonic effects would result to the economy at large also. The sulphate of alumen seems to act in this manner, as well as the tincture of the Diospyros Virginiana. The acetate of lead may also exert effects of the same kind, though never with us. In this stage of the disease we have also employed the inspissated bile with much benefit, and it seems to act both as an aperient and tonic. When there is much difficulty in maintaining the biliary secretion free and of healthful qualities, the inspissated bile will be found an admirable remedy, given in doses of from two to five grains once or twice daily in combination with columbo and ipecac., or sulphate of quinine. In some extreme cases, in which the encephalic organs were seriously threatened with internal hemorrhage, or engorgement attended with coma, we have derived the happiest effects from enemata containing spirits of turpentine and tartar emetic, employed as a means of purgation. With this combination we twice rescued patients from impending death, and after the loss of prodigious quantities of blood from the nose, eyes, gums, mouth, bowels and bladder. The injections consisted of a tablespoonful of the turpentine and thirty grains of tartar, diffused in half a pint of thick gruel; and they were repeated every fourth hour until consistent stools were procured, which in both cases followed the second enema. In such examples blisters to the nape of the neck and lower extremities were also found to be very useful. They rarely ever failed to restrain epistaxis, and speedily counteracted the disposition to coma. These agents, too, seemed to exert beneficial effects with the disease at large, through the action of the cantharadin, which was absorbed into the economy during

vesication. Whenever strangury occurred from the drawing of a blister, there was to be observed an immediate amelioration of the symptoms of the disease; and notwithstanding such effects have followed, we have never yet ventured on the internal use of cantharides.

The colchicum, so highly recommended by Dr. Elliotson as a cathartic in this disease, we have not employed. It may be applicable to the treatment of purpura, but only in those cases threatening effusion into the cavities, or when the disease occurs with arthritic or rheumatic constitutions.

If turpentine possesses any peculiar power as an internal remedy to adapt itself to the treatment of purpura, it must act like cantharadin; but our experience does not by any means support the belief that it exerts any such power. Nor have we ever derived any benefit from it in any other way when used than as a purgative enema.

In cases seeming to result from the injurious effects of mercury, it will be improper to employ calomel, or any form of mercury. In such cases the nitro-muriatic acid mixture should be preferred, when the biliary secretion is defective. In cases of this kind, too, we have derived the best effects from the inspissated bile, and aloes, used in combination with a grain of ipecac.: from two to four of the bile to one or two of aloes, and a grain of ipecac. made into two pills, to be taken morning and night. This compound acts decidedly on the liver, bowels and skin.

During convalescence it will be important that the bowels be kept easy. We have known slight returns of the disease to follow constipation of only a few days' continuance. The too early and free use of salt food will be injurious to convalescents from the disease, and relapse has followed such indulgence in our practice.

Great care should be had to protect the body against atmospheric vicissitudes, and exposure to cold and damp.

As early as possible, convalescents should exercise freely out of doors in the open air, but not to fatigue the body. Generally, it will be safest for persons to put on flannel, and to continue its use for one or two years after an attack of purpura.

Prince Edward C. H., *Virginia*, October 1st, 1845.

Art. XIII.—*Case of Angio-Leucitis with abscess, from the introduction of pus into a slight wound.* By Henry Hartshorne, M. D.

The danger of *dissecting wounds* is well known to every student; most are aware also that risk sometimes attends the entrance into the system of matter from living bodies; but the fact that very unpleasant consequences may result from this, is not so familiar as to render any confirmation of it

uninteresting. The following case, moreover, presents one rather peculiar symptom.

About the 16th of 11th month, 1845, being at the time on duty for the resident, in the men's surgical ward of the Pennsylvania Hospital,—the writer received a very trifling cut on his right thumb. After a day or two he left it entirely uncovered; continuing the dressing of patients, among whom were abscesses, compound fractures, &c. There were none under his charge, however, at this time, to afford specific virus; nor did any case of gangrene, or post-mortem examination occur.

The first constitutional symptom was a decided chill on the evening of the 18th; the thumb was then just commencing to swell and to give pain. Little discomfort was felt the following day, except in the thumb, to which cold water was freely applied till evening. A febrile condition then commenced, which increased till, at 9 o'clock, there were all the symptoms of a high fever, with intense headache. A red line was very distinctly visible from the thumb to the axilla, which was painful to the touch or on motion. No swelling of the glands, however, was perceptible at this or any other period of the attack. A small bleeding from the arm gave some relief, but the fever, headache, and restlessness, continued through the night, abating somewhat in the morning.

20th. Purged by salts in the afternoon. In the evening 20 leeches were applied to the thumb, which relieved the pain, and from this time it continued to improve, till in about a week it was entirely well. In one or two days also the red line within the arm disappeared, leading to the expectation of immediate recovery: but the soreness of the axilla, though without swelling, and the fever, headache, &c., persisted.

25th. Four dozen leeches applied to the arm-pit. They afforded as much relief to the general symptoms, calling for depletion, as to the local. For several days past, the fever has been on the increase. Appetite scanty. Bowels requiring repeated cathartics; urine very high-coloured. The axilla does not yet present any distinct tumescence.

To avoid tedious detail,—this febrile state remained, with little variation but its evening exacerbation, with restless nights and morning remission; and on the 29th, a swelling was perceived, filling the space between the great pectoral muscle and the latissimus dorsi and teres major, though not reaching to the articulation within one or two inches, and evidently not formed upon the larger lymphatic glands. It was entirely *hard*, presenting nearly the same resistance as a rib, but painful on pressure. Three dozen leeches were at once applied.

It was about this time that the symptom became marked, which I have mentioned as peculiar. It had existed to some extent, however, since the 25th. It was a hacking cough, accompanied by no pain in the interior of the chest, no physical sign of disorder there, and not the slightest expectoration. It, as well as pain in the tumour itself, was brought on by a long

breath; by getting out of bed, and especially leaning forward. It was always worse during the evening fever. When this occurred it also brought with it a shortness of breath, evidently not from any *obstruction* in the lungs, nor simply the usual panting of febrile respiration. I was sensible of an undue degree of contraction of the muscles of expiration; causing that movement to be long and blowing, while that of inspiration was difficult and short. For two or three weeks this was the most unpleasant symptom; although I was much troubled with headache, constant pain in the back, and flatulent, colicky, pain in the bowels. The difficulty of breathing was somewhat alleviated by pressure on the epigastrium, the lower ribs, or the muscles about the umbilicus; thus confirming my sensations, which referred it to a spasmodic contraction especially of the diaphragm; a blister to the epigastrium gave partial and temporary relief.

12th month, 2d. Tumour still hard: painful when touched; gradually enlarging. Two dozen leeches applied in the afternoon. Throbbing in the head; difficulty of breathing greater than usual; a sense of constriction over the whole chest. In the evening, the removal of ten ounces of blood by venesection relieved the throbbing of the temporals, and lessened much the discomfort of respiration.

7th. After a number of days further of fever, now an irregular hectic, with a continuation of the hacking cough, &c., the tumour gradually began to show, by greater swelling, softness and fluctuation, the existence of suppuration. Appetite still capricious and meagre, though stomach not disordered at all; bowels tolerably regular and now without pain; urine losing some of its high colour, but occasionally voided with difficulty.

On the 12th, the abscess was opened by a free incision. This was followed by the discharge of about five ounces of good pus, and *instantaneously* by the *cessation of the cough* above spoken of, and difficulty of inspiration, and by the disappearance of the fever.

After a little delay from the induration of its sides, making a ridge of detached integument between them, this being remedied by a compress and bandage, the abscess healed well; and by the 3d of 1st month, 1846, the orifice had closed.

As to the nature of this tumour, it appeared to result from inflammation of the lymphatic vessels, apart from the principal glands of the axilla; and having no resemblance to phlebitis, or, as it is called, metastatic abscess from deposit of pus; although pus was undoubtedly the irritating cause. The hardness of the tumour remaining for at least two weeks, and the successive stages of its formation, even the first swelling being very tardy, to my mind stamped this character upon it. The hardness and method of origin recalled to my mind a recent case in the hospital,—which is sufficiently interesting to adduce, as being also an illustration of what may occur as the *secondary* consequences of injuries.

Kendall Major, aged 25, was admitted into the Pennsylvania Hospital, 8th month, 25th, 1845, with a fracture of the upper part of the femur. In the course of the treatment, by Physick's modification of Dessault's apparatus, some excoriation was produced upon the heel. From this originated a severe erythema, almost erysipelatous, with inflammation in the track of the lymphatics to the groin. The erythema was cured; the fractured bone united; but some slight soreness remained on the inside of the thigh, in the course of the absorbent trunks. Some weeks after, when the excoriation was nearly well, he complained of this soreness of his thigh having increased; and a swelling was found there, two or three inches long by three-fourths of an inch broad, about the middle of the thigh, in the usual line of situation of the lymphatics. As there were heat and redness, cold applications were used for a day or two. A blister was then applied; but the swelling, pain and tenderness continued to increase, and, in about a week, without having perceptibly lost its character of hardness, it broke and discharged a large amount of pus. This discharge diminished rapidly, however, and on the 3d of 12th month he was discharged entirely cured.

To return to our former case. The pectoral symptoms mentioned, I presume, perhaps erroneously, to be somewhat uncommon and curious. There was evidently no disorder, functional or organic, of any of the viscera of the thorax, beyond the mere febrile agitation of the heart; the sound on percussion was clear, the respiratory murmur distinct, and no râle of any kind noticed; there was not the least expectoration, or exchange of a mere hacking for a more violent cough, although it continued for about three weeks. Yet the cough was at times so incessant that two words could not be spoken without its interruption; and every afternoon brought the same difficulty of breathing, evidently spasmodic. Both of these symptoms vanished *at once* on the opening of the abscess. It was then, a cough and shortness of breath, produced by an irritating cause entirely *external to the chest.* The precise mode of this causation would be an interesting inquiry; whether it occurred by irritation of the intercostal nerves, or of the pleura, short of inflammation, (which certainly did not exist,) and perhaps of the anterior thoracic branches of the brachial plexus, supplying the subclavius, pectoralis major and minor muscles; these nerves being considered (vide Hargrave's remarks in Ranking's report on the nervous system), important in respiration and in dyspnœa; or whether through the connections of the sympathetic, resembling what is called the stomach-cough, or others arising from sympathy with diseased organs at a distance. The doctrine of inherent contractility in muscle under stimulus would dispense with these nervous media,—but this could not extend to the diaphragm, which my sensations persuaded me was particularly affected. It is true that in such a case sensation may often be deceptive.

The main interest of the case, however, is its weight as an argument against careless exposure of themselves by practitioners to a cause of disease which is so easily avoided ; and which, however rarely it may act, is of sufficient importance when it does, to forbid neglect.

ART. XIV.—*Placenta Prævia,—removal of the Placenta before the child.* By GEO. N. BURWELL, M. D., of Buffalo, N. Y. (Communicated in a letter to the Editor.)

I SEE in the last number of the Journal that you have collected a number of cases of placenta prævia, where the placenta came away of itself or was taken away by the physician before the delivery of the child. Below you will find a short account of a similar case which occurred to my father a few years ago, and which he has written out at my request to send to you. You will observe that although the woman was so greatly exhausted by the hemorrhage, before full dilatation of the os uteri, as to require brandy, yet the pains were sufficient to expel the child in fifteen minutes after labour was allowed to go on, by the removal of the tampon.

You will notice, also, a peculiarity in the mode of confining the tampon. Neither Dr. Trowbridge nor my father has any confidence in the T bandage where the object is to restrain hemorrhage while waiting for the dilatation of the os uteri. They both insist in these cases that the vagina be filled as full as it can be crowded with pieces of old cloth (or with cotton), and these be kept in their place by a compress to the vulva, supported by firm, steady, continued pressure with the hand.

It is the decided impression both of Dr. Trowbridge and my father, that the rate of mortality as shown by Dr. Simpson's 399 cases of placenta prævia treated in the ordinary way, is far too high, judging solely from their own experience. Neither of them has the means of knowing the precise number of such cases they have seen during the last thirty years. Dr. S. thinks a dozen cases to be within the actual number he has met with, and he has known of two deaths only, including the case* I sent you a short time since.

This same case is the only fatal one it has occurred to my father to meet with of at least ten cases he has seen during his professional career, (a shorter one by some years than Dr. Trowbridge's.) Four times they have met in consultation. Take these from the twenty-two cases leaves eighteen cases. Of these two have died.

The case of Mrs. S. is the only one either has seen where the placenta was first delivered.

* [This case will be published in a future No.—EDITOR.]

The following is my father's memorandum of the case.

"*Dec. 2d*, 1841.—Visited Mrs. S. Uterine hemorrhage; fourth pregnancy; supposed herself six or six and a half months advanced. Was attacked suddenly about ten days previously with the hemorrhage; has had two slighter attacks since. Made an examination and found the os uteri relaxed and easily admitting the finger; placenta presented directly over the os tincæ. The usual remedies were directed with the usual result of allaying the discharge for the time. The patient, however, continued to have renewed irruptions of blood every three or four days, until the night of the 22d of the month, when the hemorrhage became alarmingly severe, with inefficient, though increasing uterine pains.

"Upon examination at this time the os tincæ was found about an inch in diameter; within it the placenta could be felt presenting, and which, during each pain, was forced moderately forward. As the patient was becoming very weak and faint she was sustained by small quantities of brandy; an infusion of ergot was given in repeated doses to accelerate uterine contractions. The tampon was applied and retained for six hours by a compress to the vulva, kept firmly to its place by the hand, requiring for this purpose a number of assistants to take turns with each other in holding it. The pains slowly increased, and when at length they became expulsory, accompanied with a great sense of pressure across the lower part of the abdomen, the tampon was allowed to come away, and with it came a large quantity of coagula. My hand was immediately introduced; the os tincæ was pretty well dilated, was soft, thin, and yielding. A severe contraction soon followed, throwing the placenta into the vagina and nearly filling it. I immediately removed it altogether, divided the cord, and again introduced my hand with the view of turning, but the hemorrhage had ceased, and the head of the child rested within the os tincæ. A few pains, occupying altogether from fifteen to twenty minutes, completed the labour in a natural manner. The patient had a rapid recovery.

"It is but justice to add, that during the progress of the labour I was greatly assisted by the advice of Dr. Josiah Trowbridge, of this city."

Buffalo, *Jan. 31st*, 1846.

ART. XV.—*Anomaly of the Descendens Noni Nerve.* By SAMUEL PARKMAN, M. D., Demonstrator of Anatomy in the Medical School of Harvard University, Boston.

As anomalies of the nerves are somewhat rare, a description of one which I have at present under my notice, in the descendens noni nerve, and which I believe is not mentioned, seems worthy of being placed on record.

As is well known to anatomists, this nerve when traced upwards is seen to be formed from the first and second cervical, which send a branch to a small filament coming from the hypoglossal just before it makes its rectangular curve: in fact, the nerve is principally composed of the cervical filaments, in some cases even the third and fourth concurring to its formation. This cervical origin of the nerve is constant, although, in some cases, more readily distinguished than in others, from the filaments being enclosed in separate sheaths. In the case in question the descendens had no connection with the hypoglossal on either side, but the filament that should have come from this latter nerve was supplied by the *pneumogastric.* This was the same on both sides, except that on the right the junction was a little lower down, and the pneumogastric filament, at the point where it touched the descendens, passed upwards in a retrograde direction, so as not to enter into the distribution of the nerve.

The distribution of the descendens was normal, but from its deeper origin in the neck, it did not appear so immediately in the anterior aspect of the sheath of the vessels as is usual.

BOSTON, *Feb.* 19*th*, 1846.

REVIEW.

ART. XVI.—A *Practical Treatise on Inflammation, Ulceration, and Induration of the Neck of the Uterus: with remarks on the value of Leucorrhœa and Prolapsus Uteri as symptoms of uterine disease.* By JAMES HENRY BENNET, M. D., Licentiate of the Royal College of Physicians; formerly House Physician (by concours) to the Hospitals Saint Louis, Notre Dame de la Pitie, and La Salpêtrière, Paris; formerly Vice President of the Parisian Medical Society, &c.; Graduate in the Faculty of Arts, and in the Faculty of Sciences of the University of Paris. London, 1845: 12mo. pp. 212.

THIS short and unpretending treatise of Dr. Bennet, is one of a highly interesting and instructive character.

Should the conclusions of the author be confirmed by a more extended series of observations, he has conferred a very important benefit upon the profession by directing their attention to a diseased condition of the neck of the uterus, which, although, according to his experience, of frequent occurrence, and productive of much suffering, and a long chain of symptoms of a more or less serious character, has heretofore been almost entirely overlooked.

Having, during his connection with the Parisian hospitals, which lasted seven years, three as a pupil and four as a resident medical functionary, ample opportunities for studying the pathology of the uterus—to which subject his attention was early directed—Dr. Bennet was soon convinced, that notwithstanding the care with which the affections of the uterus had been investigated, the nature, causes, and therapeutics of ulceration and induration of the neck of the womb, the commonest of all uterine lesions, were but little understood.

On referring to the most esteemed works on the diseases of the uterus, both French and English, he found that the data which the former contained respecting this malady were insufficient to account for the numerous modifications which he daily witnessed, whilst the latter were nearly completely barren on the subject. After much doubt and uncertainty, Dr. Bennet arrived, at length, at views which appeared to him to explain much of that in relation to the disease which had heretofore been obscure.

An outline of these views was presented by the author to the Faculty of Medicine of Paris, in the form of a thesis, on his graduating at that university. The present more elaborate essay was published, in parts, in the London Lancet, for 1844, and as he considers the facts and views which it contains to be of importance, he has reproduced them in the present more extended and complete form.

Dr. Bennet believes that he cannot be reproached with not having matured his opinions.

"In the first instance," he remarks, "they were formed after I had long enjoyed very great opportunities for seeing uterine disease. They have since been considered over and over again, and have stood the test of several years' additional experience.

"Some of the views which I bring forward will, I believe, be found original,—at least, if I can trust the results of my bibliographical researches. I have also many details of great interest and importance to present, with reference to the various modes of *treatment* in inflammation, ulceration, and induration of the uterine neck, adopted by the Paris physicians and surgeons—details which will, I believe, be new to most of my readers. Having carefully watched, during a great length of time, the effects of the treatment followed by the eminent Parisian practitioners, with whom the knowledge of this form of disease recently originated, and that under the most favourable circumstances—as their pupil or assistant—I have been able, I hope, to form a correct estimate of the comparative value of the different agents which they employ. I have thus, I am also inclined to think, learned how to avoid the exclusiveness which most of them show in the choice of their therapeutic agents."

According to Dr. Bennet, inflammation of the neck of the uterus, along with its sequelæ, ulceration and induration, is the principal cause of several morbid states, which are generally, if not always, studied independently of any such origin—as, for instance, prolapsus uteri and leucorrhœa.

"With reference to leucorrhœa," he remarks, "I have ascertained to my complete satisfaction—first, in the very great majority of adult females who have been exposed to sexual intercourse, a confirmed leucorrhœal discharge, whatever may be its nature, is accompanied by inflammation of the neck of the uterus; secondly, that this inflammation seldom exists long without producing ulceration; and, thirdly, that ulceration is *always* accompanied by more or less engorgement—swelling, with or without induration of the substance of the uterine neck."

Agreeably to the observations of Dr. B., the causes, as well as the extent and nature of the inflammatory disease of the neck of the uterus, vary very considerably, according to the *functional* state of the organ. He accordingly places a fundamental and most important distinction between the inflammations and ulcerations which occur in the uterine neck of females *who have never conceived*, and those which take place in the same region in females who *have conceived*—that is, who have either miscarried or borne children. In addition, we have *syphilitic* ulcerations, which may occur alike in women who have and who have not borne children—varying accordingly; and *malignant* or *cancerous* ulcerations. The pathology of each of these species of inflammation and ulceration is examined in the first four chapters of the treatise before us, and their treatment in the three following chapters.

The first chapter treats of the inflammation, ulceration, and induration of the cervix uteri in women who have not borne children—its causes, symptoms and progress—illustrated by two cases.

The chapter commences with some remarks on the structure of the cervix uteri and the difference in the length of that portion of it which projects into the cavity of the vagina.

This difference Dr. B. considers to be "evidently owing, principally, to the vagina being implanted, as it were, at different heights on the cervix, so that in some females it is merely a few lines in length, whereas in others it is an inch and a half, or more. This physiological elongation of the cervix uteri may, it appears, be carried to such an extent, that its free extremity reaches the orifice of the vulva. Dr. Heming, in his essays on uterine diseases, lately published in the Lancet, mentions several curious cases of the kind." Dr. B. does not recollect having ever met with a cervix uteri, in its physiological state, of more than an inch and a half or two inches in length.

Dr. B. is inclined to think that the symptoms indicating severe inflam-

mation and ulceration of the cervix uteri are scarcely ever met with in virgins.

"In married females, on the contrary," he remarks, "if any slight irritation of the internal genital organs exist, the cervix uteri is certain to suffer." "Thus, aphthous inflammations of the follicles of the cervix, or slight attacks of vaginitis —nearly innocuous in virgins—are frequently the primary cause of inflammation and ulceration of the cervix in women exposed to sexual intercourse." "In many instances, no doubt, sexual intercourse will alone give rise to the disease. This being the case, we ought not to be surprised to find inflammation and ulceration of the cervix nearly always present when a confirmed mucoso-purulent (leucorrhœal) discharge exists in married women, even if they have never borne children. In these cases, the leucorrhœal discharge may be merely the result and the symptom of the ulceration of the cervix: or the inflammation and ulceration may have superadded themselves, to ordinary leucorrhœa, aggravating and perpetuating it."

In females who have not conceived, agreeably to the observations of our author, the inflammation of the cervix uteri is almost always confined to the mucous membrane, the deeper structures seldom becoming implicated, except in cases of general metritis.

"The inflammation may co-exist with general vaginitis, as is usually the case in gonorrhœa—it may be confined to the uterine neck, and to that part of the vaginal cavity which is in contact with it—or, it may be limited to the orifice of the os uteri. The leucorrhœal discharge may be a prominent symptom, or it may be absent, or nearly so; which is the case when the inflammation is very limited, the mucoso-purulent secretion being then but slight, and lost in the vagina. This generally occurs when the inflammation is the result of sexual communication."

In general, there is pain in the loins; sometimes deeply-seated pain in the hypogastric region, behind the pubes—sexual intercourse is painful. The latter fact alone, according to Dr. B., may lead us to suspect the existence of the disease. Sometimes there is a vivid perception of heat at the superior portion of the vagina. It is only in extreme cases, in which the malady has been long neglected, that there occurs a sensation of weight, heaviness or bearing down.

"Menstruation is generally more painful than in the healthy state, owing to the temporary congestion of the uterus increasing the inflammatory irritation of the cervix. Indeed the occurrence of the various symptoms of painful and difficult menstruation, when coupled with a leucorrhœal discharge, may be considered, in most cases, as pathognomonic of inflammation and ulceration of the cervix. Occasionally, slight irritation of the urinary organs is present, giving rise to frequent desire to urinate. The annoyance and distress of mind which the local symptoms sometimes produce, coupled with the leucorrhœal discharge, when it is abundant, may react more or less on the general health, and give rise to dyspepsia, palpitation, general weakness, &c."

"On examining by the *toucher*, the neck of the uterus is found hotter than the lower part of the vagina; it has lost its unctuous, greasy feel—its volume is more or less increased, as also its elasticity, owing to its being more or less congested. Still there is no general or deep-seated induration of its tissue. The surface, likewise, is smooth and unresisting, unless ulceration has set in; when that is the case, it is at the orifice of the uterine cavity that the ulceration commonly begins, and from that region that it spreads; owing, no doubt, to the greater tenuity and delicacy of the mucous membrane." "Ulceration of the mucous surface, however limited, almost invariably gives rise to slight induration of the tissue underneath—which induration is very perceptible to the touch. In the form of ulceration that we are now examining, this induration is quite superficial, not extending to the central tissue of the uterine neck. It is merely a thickening of the ulcer-

ated mucous membrane, and of the sub-cellular tissue, most perceptible at the circumference of the ulceration." "This superficial induration is generally felt most distinctly at the edge of the uterine lips, where the mucous membrane passes into the cavity of the neck, and where, consequently, two mucous thicknesses are approximated by the folding of the membrane." "In the very first stage of ulceration, however, induration may not yet exist, whilst, on the other hand, the ulceration may heal, and the superficial induration remain for a few days. When the inflammatory induration extends to the entire substance of the cervix, as it generally does if the ulceration exists in women who have had children, the superficial induration is necessarily lost in the general hardness. Pressure on the inflamed and ulcerated cervix will often, not always, occasion slight pain, which is never the case in the healthy state.

"There being, thus, great difficulty in arriving at a satisfactory diagnosis by means of the toucher alone, it is generally necessary to resort to the speculum, in order to ascertain correctly the true state of things; its use being calculated to remove all doubts as to the state of the parts. This remark applies not only to those who are unaccustomed to the treatment of uterine diseases, but even to those whose touch has been fully educated."

The author's remarks on the use of the speculum, and his description of the appearances revealed by it, are full, clear, and in the highest degree interesting. We recommend them to the attention of all who would desire to become well acquainted with the symptoms and diagnosis of the common, and, consequently, important affection of which the author treats.

The second chapter treats of inflammation and ulceration of the cervix uteri in women who are pregnant, or have borne children. After some very pertinent physiological and anatomical considerations, the author proceeds to the consideration of the causes, symptoms, and progress of this form of the disease, illustrating his views by the history of ten cases.

The most common cause of non-venereal inflammation and ulceration of the cervix uteri, according to Dr. B., is abortion or labour. It may, however, in women who have borne children, depend on the same causes as in those who have never conceived—sexual irritation, vaginitis, aphthæ, &c., or it may be the result of the localization, under a chronic form, of general metritis in the central tissues of the neck.

"When this takes place, the induration and hypertrophy are primary, and the ulceration secondary, the friction of the indurated cervix against the superior region of the vagina, occasioning and keeping up a degree of irritation of the mucous membrane which often terminates in ulceration."

This cause of ulceration of the cervix, Dr. B. believes to be very rare in females who have never conceived, the central tissue of the uterine neck being in them partly protected against inflammation by the peculiar condition of its hard fibro-muscular tissue.

"When inflammation and ulceration are the result of abortion or labour, they may," Dr. B. remarks, "recognize the same origin, general metritis, occasioned by the abortion or labour localizing itself, under a chronic form, in the cervix, and giving rise, first, to hypertrophy, and subsequently, to ulceration."

In the great majority of cases, however, Dr. B. considers that the hypertrophy and general induration (engorgement) are caused and perpetuated by the presence of superficial ulceration.

The cause why, according to our author, abortion or labour gives rise to the great majority of the cases of ulceration and general hypertrophy of the cervix uteri, is the laceration and contusion of the mucous membrane lining the neck of the uterus, during the rapid and extreme dilatation of the os uteri, preceding and during the expulsion of the fœtus.

"It appears to me," he remarks, "a necessary consequence of the rapid dilatation of a canal lined by a mucous membrane in a state of integrity, that it must inevitably, in many if not in all cases, be accompanied by erosion, laceration, and contusion of the membrane. In the majority of women, no doubt, these lesions disappear promptly, cicatrization taking place with the greatest case, under the influence of the retraction of the tissues of the neck, and of the reparative phlegmasia which sets up, after delivery, in the cervix, as well as in the body of the uterus. But if the physiological inflammation of the uterus which follows parturition, should prolong its duration, and assume a pathological character; if remnants of the placenta or of the membranes left in the uterine cavity give rise, by their decomposition, to an irritating fetid discharge, it is easy to understand that the lesions of the mucous membrane, instead of healing, will almost inevitably become the seat of inflammation and of subsequent ulceration. When inflammation and ulceration of the cervix uteri recognize this origin, it will generally, but not always, be found, on inquiry, that the last abortion or labour was followed by untoward symptoms of more or less intensity, varying from severe metritis to mere uterine pains, or by a fetid and unpleasant lochial discharge. In such cases the ulceration will, at first, exist between the lips of the os uteri or even in its cavity, and if the patient is examined soon enough, it ought to be possible to follow the course of the ulceration as it escapes from the os, and spreads itself on the cervix."

According to Dr. B., inflammation and ulceration of the cervix uteri almost invariably follow tedious and severe abortions and labours in which the cervix is deeply lacerated and torn.

While in its first stages, the disease, in women who have borne children, is marked by the same symptoms as in those who have not, these soon acquire an intensity which they seldom present in the latter. The inflammation, also, readily extends to the central structure of the cervix, and gives rise to *inflammatory induration of the entire organ*, which is attended by a new train of symptoms.

"The hypertrophy and induration are generally confined to the cervix, but sometimes they pass on to the body of the uterus, then obviously, likewise, the seat of inflammation. At first, the central induration is evidently of an active inflammatory nature, as indicated by the increased heat of the organ, the vivid redness, and slight pain on pressure. If, however, it is not subdued, in the course of time these symptoms of inflammatory engorgement partially subside, and the organ becomes the seat of mere chronic hypertrophy, the inflammatory character of which is scarcely recognizable. The size of the engorged cervix varies from that of a walnut to that of an egg." "The inflammatory hypertrophy of the cervix increasing considerably the specific gravity of the inferior portion of the uterus, the entire organ descends—prolapses. The cervix is thus brought much nearer to the vulva, at the same time it frequently falls backwards, and presses on the posterior parietes of the vagina, whilst the body of the uterus is carried more or less forward. This latter change of position, which constitutes anteversion of the uterus, or retroversion of the neck, is not, however, so common as partial prolapsus. Whenever there is much engorgement of the cervix, there is always more or less prolapsus if the patient is standing; the degree to which it is carried depending on the extent of the hypertrophy and on the state of the vagina. If the vagina has retained its tone and its contractility, it will support the uterus; but if, on the contrary, it is lax, and offers no support to the engorged cervix, as is sometimes the case in women who have had many children, the latter may fall as far as the orifice of the vulva. This abnormal laxity of the vagina may be occasioned by the disease itself, the distension of the superior portion of the vagina by the hypertrophied cervix diminishing its tonicity. The engorged cervix then falls, as it were, into a non-contractile pouch."

After engorgement of the cervix uteri has taken place, the sensation of weight and heaviness in the hypogastric region, scarcely perceptible as long as there is mere congestion, becomes very marked and distressing,

especially in walking and standing. The patients not unfrequently, in extreme cases, complaining that whenever they are erect, they feel as if the womb were on the point of falling out of the pelvis. The deep-seated hypogastric pain is increased, and sometimes pressure above the pubes is slightly painful. The pain in the loins and lumbar region is generally continued, and most distressing. Severe pains are also often experienced in the thighs, along the course of the sciatic, obturator, and crural nerves. These pains are much more severe when the cervix is ulcerated and engorged, than when it is merely ulcerated.

"When there is retroversion of the neck, the hypertrophied cervix pressing on the rectum renders evacuation of the feces difficult and painful. The body of the organ being also thrown forward, may irritate the bladder, and occasion frequent desire to urinate. The presence of the ulcerated and indurated cervix in the cavity of the vagina, secreting an abundant muco-purulent fluid, which partly stagnates in that organ, is inevitably followed by the inflammation of its mucous membrane, and by general vaginitis, which increases the amount of the leucorrhœal discharge. When a patient is in this state, often long before, the general health begins to fail." "In nearly all cases, the appetite flags, the tongue becomes loaded, the bowels irregular, and in the more severe ones, the patient loses flesh and strength, suffers from continued headache, from want of sleep, and becomes dyspeptic, hysterical, hypochondriacal. As the disease gains ground, when proper measures are not adopted to arrest its progress, all these symptoms increase in intensity; the patient is nearly unable to leave her bed, and the skin assumes the yellow cadaverous hue, which is occasionally seen in severe chronic inflammatory disease of the uterine organs, and which may be mistaken, and no doubt occasionally is, for a symptom of cancerous cachexia. In these severe cases, the inflammation and induration are seldom, if ever, confined to the cervix uteri. They extend more or less to the body of the uterus, giving rise to a subacute form of metritis, indicated by the increased size of the organ, and by the increased severity of the uterine pains. There is also, generally speaking, more or less febrile reaction, especially in the latter part of the day.

"Whenever there is even superficial inflammation of the cervix uteri, menstruation is modified by its existence." "The monthly congestion of the uterus generally appears to exacerbate the local inflammation, which, on its side, renders the due performance of the menstrual excretion difficult, probably by abnormally increasing the uterine congestion, thence intense uterine pains, increased pain in the loins, and not unfrequently hysterical symptoms. This exacerbation often begins two or three days before the appearance of the menstrua, and lasts for one, two, or more days afterwards. Generally speaking, the ordinary duration of the menstruation is curtailed, and the amount of the excretion diminished, but it is not always so, for sometimes, more especially in severe cases, flooding will occur at each menstrual epoch, lasting many days."

Upon examination by the *toucher*, the cervix uteri, especially when the patient is standing, is found within one, two, or three inches of the vulva, augmented in size, very dense, and resistant to pressure. The vagina is moistened by an abundant leucorrhœal secretion, and is often hotter than usual. The os uteri is very generally more or less open, and the soft velvety sensation of the ulcerated surface is occasionally very evident when the granulations are luxuriant or fungous.

"Sometimes, if the disease is the result of difficult or instrumental labour, or of a miscarriage, the cervix is found deeply fissured, so as to present several lobes or lobules. When this occurs, even a practitioner who has had great experience in uterine disease, may be led to conclude that the affection is of a cancerous nature, unless he analyze very minutely the history and symptoms of the case." "The origin of the disease may be always traced to difficult parturition. The fissures divide the cervix into lobules, but each lobule is itself smooth and round, however indurated it may be. These fissures radiate from the os. The vagina

is perfectly free at its union with the cervix." "The inflammation always extends deeply into the tissue of the uterus, the volume of which is increased. By pushing back the posterior or anterior cul-de-sac of the vagina with the pulp of the index finger, it is not difficult to ascertain whether or not the induration of the cervix extends to the posterior or anterior plane of the uterus. In order to ascertain whether the volume of the uterus itself is increased, one or two fingers of the right hand must be introduced into the vagina, the pulp of the fingers directed towards the pubis. The fingers being then placed underneath the cervix, and the posterior vaginal cul-de-sac pushed back, it is very possible to fix or to raise the uterus by them. If the left hand is placed at the same time on the hypogastric region, immediately above the pubis, and the patient is told to relax the abdominal parietes, the abdomen may be depressed over the uterus, so that the latter organ may be distinctly felt between the finger or fingers in the vagina, and the hand over the pubes. Its volume may thus be very accurately appreciated." "It is, however, absolutely necessary, to accomplish this exploration satisfactorily, that the examination should be made whilst the patient is lying on her back."

The condition of the parts as revealed by the speculum is next minutely and very clearly described by Dr. Bennet. His very judicious and interesting remarks upon this subject, and his directions for the use of the speculum, require to be carefully studied by those who would wish to arrive at a correct diagnosis in the disease under consideration. They are too long to permit of our extracting them entire, and they will not well admit of condensation.

We have presented above a tolerably full outline of the first two chapters of Dr. Bennet's treatise, which comprise the author's observations in relation to the various forms of inflammation, ulceration and induration of the os uteri as they occur in the female, previous and subsequent to conception and child-birth. "A form of disease, which, from the extreme frequency of its occurrence, the little attention that has heretofore been paid to its symptomatology, diagnosis, and therapeutics, and the facility with which it gives way under a very simple treatment, is one of deep interest to those practitioners who are frequently consulted in relation to the ailments of females. From the almost entire ignorance which, until recently, existed, as to even the existence of the disease described by Dr. Bennet, and consequently of the dependence upon it of a train of sufferings, heretofore attributed to other and often very problematical causes, there can be little doubt that cases have been repeatedly grossly mismanaged, so as materially to aggravate and even render permanent an affection which, under an appropriate treatment, might in a few days have been entirely removed.

The remarks of Dr. Bennet on *Syphilitical ulcerations* of the cervix uteri and on *Cancerous ulcerations* of the same part, are unquestionably of very great interest; they are marked throughout by good sense and sound discrimination, and are evidently based upon a series of accurate and minute personal observations; we shall be under the necessity, nevertheless, of passing them by without further notice, and proceeding at once to a consideration of the author's directions for the treatment of the inflammation, ulceration and induration of the neck of the uterus as they occur independently of any syphilitic taint and unconnected with cancerous disease.

He again points out the fact that inflammation and ulceration of the cervix uteri, are precisely the same disease whether it occurs in women who have not borne children or in those who have, excepting that in the former, in the great majority of cases, the inflammation does not penetrate into the deep tissues of the organ, but remains superficial, and consequently does not give rise to engorgement or inflammatory hypertrophy, whereas

in the latter, so long as menstruation persists, inflammation of the cervix is generally followed by inflammatory hypertrophy of the cervix, and by the whole train of symptoms to which this gives rise.

According to Dr. Bennet, when the disease is detected previously to the occurrence of ulceration, the aim of the practitioner should be to check the inflammation and prevent the taking place of ulceration, by the remedies usually resorted to in general vaginitis.

The most efficacious remedy he considers to be, without doubt, the solid nitrate of silver, lightly drawn over the inflamed cervix, and that portion of the superior parietes of the vagina which generally participates in the inflammation.

"After the mucous surface has thus been slightly cauterized, emollient or slightly astringent injections—acetate of lead, or sulphate of zinc—must be used three or four times a day; complete rest must be enjoined, sexual congress strictly forbidden, and the general health attended to. The disease is nearly always so entirely a local one, that it is not necessary to resort to any general medication, unless the state of the health seems to demand it. A brisk purgative or two, however, can do no harm, and will often do good.

"On the parts being again examined, in the course of a week or ten days, the inflammation will generally be found to have subsided, unless it co-exist with blennorrhagia, in which case it will prove much more difficult to eradicate, and requires the same treatment as in the other regions of the sexual organs. Sometimes, nevertheless, it will be found advisable or necessary to re-apply the nitrate of silver to the mucous surface a second or a third time. This occurs more especially when the injections have been improperly performed." "To obtain," remarks Dr. B., "the full effect of the injection, the patient should recline on the side of a bed, or of a lounging chair, elevating the pelvis, so that the vagina may form an inclined plane, of which the cervix is the most depending point. The vagina thus retains the injected fluid, like a vase; it penetrates gradually into every part, and, remaining in contact with the inflamed tissues for a few minutes, exercises a decided influence on them."

Dr. B. does not consider direct cauterization of the mucous membrane by means of the speculum to be indispensable. "Astringent, or even emollient injections properly used, rest of the organs, and attention to regimen, will," he remarks, "often suffice to prevent ulceration and to subdue the inflammation, although not in so short a time nor so surely as the former treatment."

Under the same treatment, he remarks, even slight ulcerations, unaccompanied by general inflammatory hypertrophy, will often give way; but even in these cases the treatment is much more tedious and uncertain than if cauterization of the ulcerated surface is at once resorted to, and repeated as required.

Dr. Bennet lays it down as an axiom, that the basis of the treatment of inflammatory *ulceration* of the cervix uteri is, the cauterization of the ulcerated surface.

"If the inflammation has not penetrated," he remarks, "to the deep tissues of the cervix, and there is no general inflammatory hypertrophy of the organ, *superficial* cauterization, combined with emollient and astringent injections, rest both of the organ and of the system, and attention to the general health, is all the treatment that is required, and will generally effect a cure in from four to six or eight weeks."

The agents used for the cauterization of the ulcerated cervix are various. The principal, according to our author, are the nitrate of silver, and the acid nitrate of mercury. This latter is a dissolution of deuto-nitrate of

mercury in nitric acid. It is a powerful caustic, giving rise to a white eschar, which does not fall for five or six days.

"When the inflammation is intense, the ulceration large, and the granulations redundant or unhealthy, it exercises a very prompt and beneficial influence, generally cleansing and modifying the sore in one application. In very slight ulcerations, however, Dr. B. thinks it too powerful a remedy, and that the solid nitrate of silver answers the purpose much better.

"When recourse is had to the nitrate of silver, its application may be repeated every fourth or fifth day, whereas the acid nitrate of mercury should not be applied oftener than once a week."

In his own practice Dr. B. confines himself for the purposes of superficial cauterization to the nitrate of silver and the acid nitrate of mercury, and, occasionally, when these fail to produce the desired effect, to caustic potassa.

Dr. Bennet describes with great clearness the method of applying these various caustics to the cervix uteri, and points out the precautions which are absolutely necessary to ensure success and to prevent injury from their use.

"In concluding what I have to say for the present on the subject of cauterization, I may remark," observes Dr. B. "that the application of caustic to the cervix gives little or no pain, whichever may be the one employed. The actual cautery itself is, indeed, scarcely felt more than the nitrate of silver. Considering the almost total absence of spinal nerves in the cervix uteri, we have no reason to be surprised that this should be the case. As to the danger of metritis and peritonitis, on which some eminent practitioners who have written on the subject have laid so much stress, there is not a vestige of foundation for the fears which they have expressed. I have certainly seen cauterized, or cauterized myself, several hundred females, and have never yet known a really serious accident follow." "It must, however, be well understood, that I am speaking of cauterization properly and discreetly performed by well-informed and prudent medical men. The strong caustics are at all times dangerous weapons in the hands of ignorant or careless practitioners, especially when thus applied in the depths of the human economy. If the nitrate of mercury, or the potassa fusa were applied to or allowed to run on the vagina, which is as sensible as the cervix is insensible, it would occasion severe pain and inflammation, perhaps retraction of tissue, or even more serious consequences. Such results have occurred in France, in the practice of unskillful medical men."

After the application of caustic to the inflamed surfaces, Dr. B. directs injections. When the disease is confined or nearly so, to the cervix uteri —these should be simply emollient, as milk and water, infusion of linseed, decoction of mallow or marshmallow, &c. In most cases, indeed, he remarks, tepid or cold water alone would be quite sufficient. If the inflammation extends more generally to the parietes of the vagina, astringent injections will be demanded. Those employed by Dr. B. are, principally, solutions of acetate of lead, of sulphate of zinc, and of sulphate of alumina and potassa; beginning with about one drachm of either to a pint of water, and increasing the strength of the solution according to the results obtained.

Rest in the horizontal position is very beneficial,—the quieter a patient remains during the treatment, the easier it is to effect a cure, even in comparatively slight cases. Abstinence from sexual intercourse should be rigidly enjoined.

"If the disease," remarks our author, "has existed for a length of time, and abundant leucorrhœa has long been present, as is usually the case, the general health will nearly always be found to have suffered secondarily. In that case the cephalalgia, palpitations, cardialgia, anorexia, insomnia, weakness, &c., being

evidently the result of the disease, do not *imperatively* require any particular treatment. As the local affection is ameliorated and the discharge decreases, the general health rallies and the symptoms alluded to gradually give way. It is, however, frequently possible for the physician to assist the efforts of nature, which he must do as he best can, according to the peculiarities of each case, and the laws of rational therapeutics. Tonics, and the various preparations of iron, are the medicines which are the oftenest beneficial."

When the inflammation has penetrated deeply into the tissue of the cervix uteri, and given rise to chronic inflammatory hypertrophy, as, according to our author, is generally the case in women who have borne children, and sometimes even in those who have not, we have a much more serious disease to contend with, and a more energetic treatment may be consequently indispensable.

In cases where the disease has been the result of miscarriages, difficult labours, or of deep lacerations of the cervix, there is frequently more or less inflammation of the uterus itself. This may demand the usual general antiphlogistic remedies. So active a treatment, however, will seldom, according to Dr. B., be found necessary. "Complete rest in bed, diluents, tepid hip baths, emollient injections, poultices to the abdomen, and a few leeches to the hypogastric or iliac regions, will nearly always, he remarks, subdue the general inflammation of the uterus in the course of a few days, so as to admit of examination with the speculum." So soon as the symptoms of metritis have been removed, Dr. B. directs the cauterization of the ulcerated surface to be at once resorted to as the means best adapted to allay the irritation of the uterine system.

Superficial cauterization, injections, rest, and a light diet, will, he asserts, very often alone suffice both to cure the ulceration and to resolve the induration. When, however, the nutrition of the engorged cervix has become deeply modified by the subacute inflammation, of which it has perhaps been the seat for months, or even years, complete rest in the horizontal position is indispensable. For the hypogastric pains large linseed poultices should be applied over the hypogastrium, and changed occasionally. Tepid or cold hip baths, twice a day, are useful adjuncts to the treatment.

"In these cases," remarks Dr. B., "cauterization of the ulcerated surface may generally be resorted to from the first, but the action of the nitrate of silver is too superficial, and the acid nitrate of mercury or caustic potassa should be preferred. Emollient or astringent injections should also be used. When the inflammation is confined to the neck, emollient injections will suffice; if the vagina is also inflamed, astringent injections are indicated. Attention must be paid at the same time to the condition of the bowels, and to the general health.

"The treatment may be confined to these measures for two or three weeks, during which time the influence of the medication followed must be narrowly watched. If the ulceration becomes less angry-looking, if the granulations assume a healthier appearance, and if the hypertrophy of the neck appears rapidly to decrease, the treatment may be continued, as it will probably prove quite sufficient to effect a complete cure. But if this is not the case, if the amelioration which at first takes place ceases, or if the ulceration appears inclined to heal without the induration giving way, other measures must be resorted to. The most efficacious is the application of leeches directly to the uterine neck."

"If all these measures, coupled with attention to diet—which must be light—and to the general symptoms, should fail to heal the ulceration and to dissolve the induration, or healing the ulceration should leave the induration behind, the patient ought not on that account to be abandoned as cured, or as incurable, as is generally the case, nor should pessaries be used to support the prolapsed parts."

In cases of chronic hypertrophy of a slight character, unattended with

ulceration or abundant leucorrhœal discharges, Dr. B. believes that we may be warranted in trusting to time, or at least in waiting or trying mild measures, such as frictions with the iodide of potassium,—enjoining rest, and the necessity of at once applying for advice should the symptoms become more intense, or a leucorrhœal discharge set in.

When the disease is attended with prolapsus to any extent, and with symptoms of any intensity, it is, according to Dr. B., our duty to follow up the treatment and cure the disease entirely, if possible.

"In order," he remarks, "to modify effectually an engorged cervix which has resisted all other modes of treatment, the indurated organ must be deeply cauterized, either with the Vienna paste (quicklime and potassa fusa) the plan adopted by M. Gendrin, or by the actual cautery, that followed by M. Jobert (de Lamballe)."

The hypertrophied cervix is, according to Dr. B., diminished by the extent of the eschar thus produced, while the healthy inflammation set up in the chronically indurated tissues gradually melts them, as it were, so that often, on its subsiding, the cervix has regained its natural size.

"When this result," he adds, "is not obtained by the first cauterization, a second or a third seldom fails to reduce the uterine neck to its normal dimensions. With the disappearance of the hypertrophy also disappears the symptoms which it occasioned, the uterus returns of itself to the position which it naturally occupies in the pelvis, and the cure is *really* accomplished."

Minute directions are given for the application of the Vienna paste. The remarks of the author on the use of this and the actual cautery, are highly interesting. We have only room for the observations with which the chapter concludes.

"To sum up,—I firmly believe that chronic induration and hypertrophy of the cervix uteri, the result of inflammation and ulceration, will often be found incurable by any other means than excision or deep cauterization. Excision ought, I believe, to be excluded, owing to the severe hemorrhage which follows, and the danger which consequently attends it. Deep cauterization being resorted to, I prefer, in most cases, the Vienna paste to the potential cautery, but merely because it alarms the patient less, and has less the appearance of a formidable operation. I have had such extensive experience of both agents in the Paris hospitals, that I think myself fully warranted in stating, that in the hands of careful and intelligent practitioners there is no more danger in resorting to deep cauterization of the cervix, than in performing any other of the minor operations of surgery.—It must not, however, be forgotten that cauterization of the cervix, as above described, is an *operation*, and, like *all* operations, surrounded with dangers,—that, consequently, it must neither be lightly undertaken, nor lightly carried through."

The essay closes with a short chapter on the treatment of syphilitical and cancerous ulcerations of the uterine neck.

We have endeavoured, in the foregoing summary, to lay before our readers the leading features of the pathology and therapeutics of inflammation, ulceration and induration of the cervix uteri as laid down by Dr. Bennet. His observations in relation to this disease are unquestionably of a highly interesting character. His opportunities for studying it in its several stages and different degrees of intensity have been sufficiently ample, certainly, to enable him to arrive at correct conclusions as to its true character, symptoms, progress and results, and for studying the effects of the several modes of treatment pursued in the Paris hospitals for its cure. Admitting that his pathological views are sound, and that his account of the effects of the remedies recommended by him for its treatment is in the

main perfectly accurate, and we see no reason for suspecting that such is not the case,—no one will deny the important service he has rendered to the profession by pointing them to the true character of many of the groups of symptoms of common occurrence in the female, in relation to the pathology of which, notwithstanding they are very generally admitted to be connected with uterine disease, the most indefinite and discordant views are entertained; and by, at the same time, directing their attention to a plan of treatment at once simple and successful.

We recommend the essay of Dr. Bennet to the careful study of all who feel an interest in the diseases of the female sex.

D. F. C.

BIBLIOGRAPHICAL NOTICES.

ART. XVII.—*Fragments of Science and Art. An Address delivered before the Boylston Medical Society of Harvard University.* By HENRY JACOB BIGELOW, M. D., President of the Society. Published by the Society.

THE author opens his address by alluding to "the brief period that has elapsed since he had the honour to be an immediate member of the society," composed, we believe, of under-graduates of the Boston Medical School. Had he not thus prefaced his discourse, the reader would have supposed it to be the work of one whom long years of labour and study had carried far away from the starting point in his professional career. In maturity of thought and correctness of style it is remarkable even when compared with the best essays relating to medical science and education. Its doctrines may or may not be true, (and we shall endeavour to show that some of them are open to objection,) but the skill and knowledge with which they are stated and defended, must command respect; and the ardent love of medical truth which breathes throughout the whole address must win for its author the sympathy of every professional brother, who regards medicine as something more than a trade,—who venerates it as a high and holy philosophy.

The principal object our author has in view is to show that while medicine is an inductive science, and while the numerical method is the most certain means of discovering inductive truth, there is yet a kind of hypothesis which is not only useful but necessary in order to arrive at general laws in the several departments of medicine. Upon this, the first and chief part of his subject, we shall offer some remarks. The address commences with a sketch of the inductive method of philosophizing, and assumes as an acknowledged principle that "the truth lies in facts, and that we have only to collect facts to discover it;" and, further, that written or recorded facts are much more valuable for the purpose in view than those which are only remembered. This Bacon established in regard to science generally, and Louis in regard to medical science; the former, by precept, however; the latter by practice. But admitting this general principle, "the student has yet a vague suspicion that the observer with his note-book is a dull man; that the process of induction does not require ability; that statistic results apart from observation are the work of laborious and slow minds,—of industry which plods, of intellect which never sparkles." But "a great discoverer is commonly a great genius," says our author, whence it follows, that if discoveries are to be made by observation and statistics, the discoverer who employs these mechanical aids cannot be a dull man. But observation and statistics, our author contends, are not always directly necessary for the discovery of medical laws; he affirms, that these may be deduced from propositions previously established in mechanics and chemistry; that some laws of physiology may be deduced from anatomy, and some of pathology from physiology. This doctrine is at variance with that of Dr. Bartlett, who, in his admirable essay on the Philosophy of Medical Science, establishes the principle that no new facts or relations can be deduced from ascertained facts and relations of a different kind; that physiology, for example, does not flow from anatomy, nor therapeutics from pathology, &c. We cannot think that Dr. Bigelow has been successful in maintaining a contrary doctrine. "The valves of the veins and the structure of the joints point directly to their uses," says Dr. Bigelow. It would be more correct to say that the uses of these parts are *explained* by their structure; for it was necessary for the discoverer of the former to be acquainted with the use as well as the structure of the artificial mechanical contrivances which the veins and the joints respectively resemble. A man who

had seen many hinges but never one in motion, could hardly guess that a joint was made to execute the movement which really belongs to it. Besides, the uses of the joints, and the circulation of the blood, at least of the venous blood, were known before the anatomy of the parts in question. Whence it is incorrect to say that the structure of these latter *points* to their function. Again, Dr. Bigelow remarks, "the optician tells you that the crystalline lens throws an inverted image on the retina; a medical tyro will infer that opacity of the lens will obliterate this image," and we reply that, strictly speaking, the optician will be wrong, and the tyro the dupe of an hypothesis; for there is no image formed on the retina of a sound eye, nor as long as the choroid coat is perfect, and a black surface absorbs light. But this by the way. In being told that opacity of the crystalline lens induces blindness we do not learn a fact deduced from an optical law, for it is only one of the cases from which that law was inductively formed, since the eye would never have been suspected of illustrating optical science, if the several modes of vision and blindness had not been observed to coincide with opacity of the lens, and various obstacles to the entrance of light through the pupil. In the same way auscultation, which our author adduces as an example of the application of acoustics to pathology and semeiology, was not in any way deduced from acoustic principles; as a science it possesses a set of principles formed by induction from certain observed phenomena, and those principles being found identical with previously established acoustic laws, auscultatory phenomena are now directly referred to these laws. What says Laennec in the preface to the second edition of his treatise? "I have entirely altered the arrangement of the first edition. The greater number of the facts in it being entirely new, I felt obliged to follow in almost every part the analytical method; but now, on the contrary, the principal observations having been repeatedly verified, I adopt the synthetical method as the shortest." He discovered auscultatory laws by induction; he taught their application, of course, deductively. So it has ever been, and so must it of necessity ever be; no phenomena of one science can be referred to the laws of another before an induction in the case of each science has led to identical laws, in which event the two sciences are, up to a certain point, proved to be one and the same. As far as the phenomena of auscultation lead to acoustic laws, auscultation is a branch of acoustics; but only in so far. This Dr. Bigelow admits when he says that "the facts to which we are thus pointed are not decisive, because they are liable to be modified by another mechanism of which we know nothing. There are *vital forces* at work which counteract the most obvious tendencies of the material particles of the human fabric." And directly afterwards he seems to admit that deduction is of very limited application in medicine, in the following passage which shuts within itself the very kernel and essential principle of medical philosophy. "The chief employment of the medical philosopher is to establish the laws of phenomena; to ascertain the frequency with which certain facts occur with other facts; to point out the element most constant to a wide range of phenomena; the very ends which the inductive method of Bacon, and the numerical method of Louis, its medical application, teach us to attain with certainty. Medical diagnosis and medical prognosis obviously grow out of rigid induction."

Our author defines very clearly and accurately the value of the inductive method in therapeutics, as capable of determining not the exact power of a medicine in a given case. because no two cases of a disease are identical, but as establishing beyond all dispute, first, that a remedy has some value and next, very nearly what that value is. This being done, the appproximate value being obtained by a series of experiments on a large number of individuals, the more precise value in relation to a particular case must be found by a series of corrected experiments on the subject of that case. The advantage of the numerical method over unrecorded experience is not that it bestows more judgment, or supplies more agents, for treating a case of disease, but that it furnishes the best agents, and saves from the danger or disappointment of employing worthless ones.

As already intimated, Dr. Bigelow contends that there is a place for *hypothesis*, not only in medicine, but that "in some form, it is almost essential to the discovery of scientific truth." He admits that Bacon and Newton did not recognize this instrument, and that it is equally rejected by many philosophers of the present day. But they, he assures us, had, or have, in view unproved or false hypo-

thesis only; for Newton defines hypothesis to be "whatever is not deduced from phenomena." Dr. Bigelow considers it to be "a form of induction," a proposition "drawn from few facts and applied to many." Now a *form* of induction, a proposition drawn from facts, be they few or many, is an induction, an imperfect one, if it include a portion only of the known facts relating to the subject examined, a perfect one if it include them all, but in either case it is an induction, not an hypothesis. Otherwise every inductive law of the physical sciences is an hypothesis, since no one of them is the generalization of all pertinent facts. In the sense of our author the proposition that quinine cures intermittent fever is an hypothesis, not an inductive conclusion. We therefore enter our protest against what we are compelled to regard as an unauthorized use of a word which physicians, above all other men, have abundant cause to look upon not only with distrust but with horror, as the representative of a power which, usurping the sceptre of science, has judicially slain its tens of thousands.

Dr. Bigelow endeavours to defend his proposed introduction of hypothesis into medical philosophy by showing that Newton himself in his theory of gravitation, Kepler in his determination of the orbit of Mars, and other astronomers in some of their most important discoveries, formed hypotheses which subsequent observation demonstrated to be true. This we readily admit, but the case of astronomy, and that of medicine are not parallel; in the one we have a few simple and well-determined elements which make the limits of possible error exceedingly narrow; but in the other, these limits are, to speak hyperbolically, illimitable, that is, they cannot be measured. Mr. Mill, in his profound treatise on inductive logic, lately republished in this country, sets this matter in a clear light. He shows that the hypothetical method of discovering truth may be legitimate, *provided* that it lead to true results; that the case be such that a false law cannot lead to a true result; and that no law except the very one assumed can lead deductively to the same conclusions which that leads to. It is needless to remark that these conditions have never been fulfilled by any medical hypothesis, properly so called, and that they have all been fulfilled by the hypotheses of Newton and Kepler, to which Dr. Bigelow refers. The theory of Jenner in regard to the protective virtue of vaccinia was not, though our author affirms it, an hypothesis. It was first propounded to him by others as a truth; he performed his experiments merely to give a wider base to his induction, and it led him to a certain law.

While we have thus animadverted upon what we conceive to be a misuse of the term hypothesis, and object to its employment in medical investigations, we heartily agree with Dr. Bigelow that some persons set a very undue value upon facts, "facts repeated, facts almost independent of their bearing or application;" seeming to consider them as the end and not the means; as the truth itself, and not the pathway leading to it. For such an error neither the founders of the numerical school nor its disciples are responsible; and, error though it be, we hold it of far less magnitude than a blind adherence to any medical hypothesis which has yet enslaved our profession. The mere collector or reader of cases is profitably employed, for he is studying nature; there is no danger but that he will generalize quite as soon as he ought; the student of hypothesis is wasting his time, and destroying his ability to benefit mankind, how much soever he may sharpen his own sight by gazing after things invisible to the natural eye. Give us the man who closely scans the objects that lie at his feet, and within reach of his hand, until he knows them and their relations thoroughly; rather than the aspiring philosopher who despises the objects with which he is in contact every moment, and who, lost in sublime meditations on things far above his sphere, walks innocently into the very first ditch of absurdity that lies across his path. In the other natural sciences hypotheses are comparatively harmless; they seldom lead either to the shortening of life, or the infliction of pain, (except on their inventors;) they are a sort of poetical recreation in which men of fervid genius may be permitted to indulge:—but who is there ready to anticipate complacently the consequences of inventing a medical hypothesis? has he counted the hecatombs which have been offered up at the shrines of Paracelsus, and Boerhaave, of Brown, and Hahnemann? Does he emulate their glory? No humane man would willingly incur such a responsibility. Nor does Dr. Bigelow, when, by the help of facts he would go beyond facts, that is, beyond truth, and when he describes hypothesis as a form of induc-

tion, seem to perceive whither his doctrine inevitably leads, or he would be the first to condemn it. But the moment that he admits the possibility of discovering physical truths by any other means than a rigid induction from physical phenomena, he throws open the door to that arch-enemy of medical science, Hypothesis. No matter by what name she is admitted, once she has gained entrance she will assert her sway, for in science now, as much as ever, men find it easier to believe than to examine. Let us bolt and bar the door against her. Far better were it to plod along the humble path of nature in company with Hippocrates, and Sydenham, and Louis, than to soar amongst the clouds of obscurity with Galen, and Sylvius, and Stahl. The interests of medicine will not be promoted by intellectual brilliancy that shines outward, but by mental power which appropriates the external, and digests and vitalizes it. The soil that sparkles most with diamonds is of all others the most barren of fruit. To return for a moment to the abuse of facts, (which, in common with Dr. Bigelow, we deplore,) we do not think that the faithful record of *all* the particulars of a case of disease unnecessary, even when collected with reference to a definite inquiry. He bids us "have a purpose in our investigations," to let them be for the purpose of verifying a law, of forming or of testing an hypothesis. We would rather advise the observer to record his observations without any ulterior view; to paint a portrait, to catch a Daguerreotype likeness of the case before him. This done, he possesses materials which may be used for various purposes. When he has many such cases let him search out the general truths contained in them by means of induction, not anticipating exactly whither the process will lead, only knowing that it will lead to truth. He needs no preconceived principles of arrangement for this purpose; as soon as the facts are numerous enough they will coalesce harmoniously by virtue of their inherent mutual attraction, as the particles of molten iron can crystallize only in one form.

There are many other portions of the first division of Dr. Bigelow's address which afford an occasion for approbatory remark, or the expression of respectful dissent, but the limits of this notice oblige us to leave them without comment, and to pass at once to his reflections upon medical art. Speaking of the unity of medicine and surgery in a scientific point of view, he thus vigorously reprobates those who would cut them asunder, and reduce surgery to a system of scientific butchery, or at best to the art of dissecting elegantly the living subject. "Do not identify surgery with the knife; with blood and dashing elegance. Distrust surgical intrepidity and boldness. If such epithets have any meaning, they are in bad taste, and tend to give the student a wrong impression of scientific excellence. War has ever respected science; why should the votaries of science themselves disturb its quiet paths by the harsh jargon of the battle field? What are brilliant achievements? The right subclavian artery and the innominata have been often tied with success, and the patient has always died. Boldness in battle implies voluntary exposure of one party, while it threatens danger to the other. In surgery the bold operator does not hazard his own person, but that of the patient is perhaps not less endangered. Science never hears of the ten or twenty quiet sufferers who fall victims to the publicity of an exceptional escape from surgical intrepidity."

Our author is of opinion that the old-fashioned "grave and professional demeanour" had better be laid aside, that we should "discourse on medical subjects honestly and hopefully," and, when the occasion demands, "avow the inadequacy of art" without fearing to derogate from its dignity; and this because people now-a-days will not "attribute to the physician superhuman sagacity." They will ask him for his premises, and think they have logical abilities enough to follow him to his conclusions. Therefore, he advises, "when you examine a medical case . . . . . spread out the facts: show which way they point. Do not say what your opinion is, but why it is so." "If you ever, in these days, acquire a reputation for infallibility, it will be after you have shown that you are infallible." To all of these sentiments we cannot subscribe, if they are meant to apply to the intercourse between physicians and patients. If men were mere reasoning machines the doctrine of our author might be upheld, but they are just as much swayed by moral motives now as in former times; indeed, the most striking difference we can discern between those times and ours, is that in the former intellect bowed to duty, while in the latter it has entered into an alliance offensive and defensive with

selfishness. The intelligence of the people is just sufficient to delude them into a belief that they are not ignorant, and hence to make them believe anything that flatters their vanity.

Scientific men, indeed, are slow to be imposed on in matters with which they are conversant, and such men are modest in their knowledge. But we call to witness the whole medical profession, that intelligent men, men who must have reasons, men who will put their Doctor through his medical catechism before taking his prescriptions, that these are the very men who, having faith in nothing, are credulous of everything, and are by turns the disciples of every false prophet, and the advocates of every false doctrine begotten by visionary enthusiasts, or concocted by impudent impostors. Dr. Bigelow himself remarks, "that scientific excellence is not always the nucleus of extensive medical practice;" people do not trust the man who has most skill, but him who seems to have most; not the physician who has the best reasons for his practice, but the one who to them appears to have the best. The reason is plain: they are necessarily unable to decide upon the correctness of a medical argument; they consequently favour not that which is best, but that which pleases best. In other words, they are led by the man or the fashion, when they fancy they are guided by reason. There never was a period in which medicine was so worthy of veneration as the present, and we may safely assert that there never was one in which it was so much insulted. Physicians should look to it that they are clear of having aided in its degradation by endeavouring to let down their art to the level of the popular comprehension. They have given reasons to their patients when they should have given them conclusions only. They have thrown off the priest's garments and left the altars, to mingle undistinguished with the crowd; let them not complain when they see impostors standing in their wonted place. That power of controlling the mind and body of a patient through his faith in them which was once their high prerogative, they have now resigned; the base charlatan has appropriated it, and while they reason with their skeptical patient, the thief steals in and thrusts them from their post.

Dr. Bigelow concludes his address by exhorting his hearers to cultivate a pure morality; to avoid wasting their time in exposing the errors with which the vulgar love to be gulled; to abstain from taking out patents "for the common offices of Christian charity;" and lastly, "not to lose sight of science in their intercourse with art." We can say without fear of contradiction, that there are few amongst the published "Introductory Lectures, &c.," which we have read, that bear any comparison with this essay in vigour of thought, in familiarity with the principles of reasoning, or in soundness of precept. A. S.

Art. XVIII.—*Elements of Pathological Anatomy; illustrated by coloured engravings, and two hundred and fifty wood-cuts.* By Samuel Gross, M. D., Professor of Surgery in the Medical Institute of Louisville, &c. Second edition, thoroughly revised and greatly enlarged. Philadelphia and Louisville, Ed. Barrington and Geo. D. Haswell, 1845: royal 8vo., pp. 822.

We are happy to see a second edition of this work, the more especially as it has undergone a thorough revision since it was first issued from the press. This edition has been enlarged by several hundred pages of new matter, and by more than one hundred and fifty illustrations. Three chapters have been added to the first part, treating respectively of "Fistules," "Pneumatoses," and "Polypes," and a large amount of interesting and important matter inserted in the chapters on "the nervous system," "the respiratory apparatus," "the heart and its membranes," and in that on "the stomach and bowels." Indeed, the whole work gives evidence of the author's untiring industry and devotion; he seems to have neglected none of the accessible sources of information which have been opened within the last two years, and to have availed himself of them with a judgment that proves him to be a thorough master of his subject. The wood-cuts which illustrate his work, though not in the best style of this valuable art, convey, for the most part, a very good idea of the objects designed to be represented; and if the coloured

lithographs are not of corresponding merit, the fault is chargeable to the artists, no doubt, rather than to Dr. Gross.

It is with great pleasure we observe that Dr. Gross has paid marked attention to correcting the errors and supplying the omissions of the first edition of his treatise, especially those which were pointed out in a review in the 26th vol. of this Journal, and which relate to certain matters of fact. We wish it were possible to add that in every instance the corrections have been made with evident cheerfulness and good will, and that where the author had been challenged for want of courtesy, there was no perceptible reluctance in his making the *amende honorable*. We shall mark these occasions as we pass in rapid review the more important topics which were originally noticed in the article referred to.

The main error in this treatise is one of doctrine, and therefore of less consequence than one of fact or description, yet it is one which appears to us hardly excusable at the present epoch of medical science. We allude to the Protean parts which inflammation is made to play in pathology. It is equally present and operative, according to Dr. Gross, in those processes attended with swelling, heat, pain, and redness, and in all organic lesions whatever, organic here being used to comprise every change of structure, every disease not purely functional. It is the primary agent in effusions, even when mechanically produced; in all the analogous transformations, and in all of the heterologous description which other pathologists have ascribed to disordered nutrition. It is equally the essential element in the formation of erythema, of phlegmon, of œdema, of senile ossification, of cancer, and of tubercle. Well may our author declare that in some of these cases the change is effected, not by inflammation (of the visible and palpable sort), but by that miniature hypothetical form of the same process yclept irritation, and by "a low and *imperceptible grade*" even of that. What sort of a thing an imperceptible irritation may be we cannot imagine, and we have looked in vain for a definition of it, as well as of inflammation, through the whole chapter which describes, and excellently, we allow, the various phenomena of the latter process. Dr. Gross has wisely omitted the "strong language" used in his first edition concerning those persons who deny the inflammatory origin of tubercle, condemning them as "completely disqualified from coming to a just and rational conclusion concerning the point at issue." But he is still persuaded "that every one who has investigated the subject must be convinced of the truth of the doctrine of the inflammatory nature of tubercular phthisis, and that it is only surprising there should ever have been any other." He also congratulates himself that these views are held by some of the most eminent pathologists of Europe. Now if the proposition that the nature of tubercles is inflammatory means anything, it means that inflammation is essential to their production; a doctrine which, so far from being supported by recent authorities, is emphatically rejected and condemned by the best among them. Doctors Watson, Valleix, Grisolle, Rilliet and Barthez have certainly studied the subject thoroughly, and brought to its examination as many of the lights of science as any other men living, and yet they deny unequivocally the inflammatory nature of tuberculization. They certainly do not call in question what every one admits, that tuberculous disease often follows acute inflammation, not *because* the latter is inflammatory, but because one of its effects is debility, not merely in the phlogosed part, but throughout the economy. They show that in districts where inflammatory diseases prevail consumption is least prevalent, and vice versa; that pneumonia and bronchitis occupy the lower lobes of the lungs most frequently, and tubercles, even when following these affections, are developed in the upper lobes; that males are more subject than females to bronchitis and pneumonia, but females more than males to consumption of the lungs; that inflammation is characterized by an increase of the proportion of fibrin in the blood, and by a normal or augmented proportion of red globules, but commencing tuberculization by a falling off in these elements, &c. &c. But it is needless to multiply authorities and arguments on this subject, since we have seen that Dr. Gross uses the word inflammation in a sense peculiar to himself. While we acknowledge his right to attach what meaning he prefers to the term in question, we must doubt the policy of his exercising this right; especially when it leads him to blame other pathologists for deducing conclusions the reverse of his, from premises which are radically different. Adepts in pathological

anatomy, microscopy, and organic chemistry appear to forget that their distinctions should be formed as far as possible with reference to the conditions and changes which are cognizable by the practitioner, and that there can be no good in classing together, or in regarding as identical operations, those in which he can perceive no similitude or even analogy. Is he instructed by being told that there is no difference between tubercles and lymph, except in form, when his daily experience teaches him that the latter when effused tends to organization, and the former to disorganization? He feels, he cannot help feeling, that such a pathology is better calculated to confound than to enlighten him.

At page 342 a very good description is given of acute tubercular meningitis, supplying an omission in the first edition, and correcting the error therein made of referring tubercles of the cerebral membranes to chronic disease of those parts. The author, when he first composed his work, appears not to have been aware of the existence of Dr. Gerhard's paper upon tubercular meningitis, published in this Journal five years before the appearance of his own treatise; and now, after being fully informed of the fact, contents himself with the following statement of it. "Papavoine, in 1830, was the first to demonstrate the true nature of these bodies [meningeal granulations] and to indicate their co-existence with tubercles in other organs. The results of his researches were soon after verified by those of Fabre, Constant, Rufz, Green, Piet, Coignet, Lediberder, Becquerel, and Gerhard. The paper of the American inquirer was published in 1834, and materially contributed to settle the question as to the particular origin of this disease." Thus cavalierly are dismissed the claims of an American to the discovery of a more important pathological law than has ever been added to science by any physician on this side of the Atlantic, and that too by a professional brother, himself devoted to pathological investigations. It is well for Dr. Gerhard that justice has been done to him where scientific merit is rather better appreciated than with us, and where scientific justice is more likely to be administered. MM. Rilliet and Barthez, in the historical account given by them of tubercular meningitis, mention that M. Papavoine published *two cases only* of the disease, and that Dr. Gerhard's essay was the next account of it that appeared in print. This latter, with the inaugural dissertation of M. Rufz (1835), and the thesis of M. Piet (1836), they regard as having converted into general laws the conclusions drawn by M. Papavoine from his cases, *and* as having proved, 1, that meningeal granulations are in their nature tuberculous; 2, that they are analogous to the granulations of other serous membranes; 3, that they only exist in subjects who have tubercles in other organs. "These essays," they remark, "are worthy of praise on account of the good sense which pervades them, and for the rigorously exact method by which their authors were uniformly guided." Such are the facts of the case; our readers may judge how far the mention made by the American author of Dr. Gerhard is either generous or just.

If the first historian of tubercular meningitis is thus disparagingly noticed by Dr. Gross, we can look for no better appreciation of his labours in regard to lobular pneumonia, and accordingly in all that our author says of this disease, and following Rilliet and Barthez, he describes it accurately, Dr. Gerhard's name is not so much as mentioned once. And yet Dr. Gross can hardly plead ignorance of Dr. Gerhard's connection with the history of this disease; he had been informed of it in the Review in this Journal before alluded to; and if, while gleaning from MM. Rilliet and Barthez the pathology of lobular pneumonia, he had turned to their literary history of the affection, he would have found this passage: "Dr. Gerhard's essay is the result of careful observation, is founded entirely on an analysis of facts, and is, beyond all dispute, the most remarkable treatise that has been published on the subject." We are compelled, therefore, to regard the omission as intentional; but will not attribute any motive to Dr. Gross for this act, lest we do him injustice, contenting ourselves with having shown him how grievous an injustice he has done to a professional brother. It may be asked why we lay so much stress upon so personal a matter? We reply that to insist upon the full recognition of a discoverer's claims is to espouse and defend the cause of all scientific men, and of science itself; for if the hope of honour is no longer to stimulate ambition, men will faint amidst ungrateful labours, and science will

languish and decay. Medical science in this country has not so many achievements to boast of that she can afford to be shorn of any of the laurels she has really won.

Amongst the alterations in the present edition of the work before us, we note the following. A correct description is now given of vesicular emphysema, instead of the wholly erroneous one of the first edition; yet half a page is all the space allotted to this common and important disease, and Dr. Gross continues, apparently, to think it unnecessary either to name the author or to mention the recent date of the discovery of its pathology. A full account is taken from M. Durand-Fardel, and others, of softening of the brain, and yet in discussing the curability of this disease, our author merely reprints the text of the first edition of his work, and takes no notice whatever of the examination of the subject by the recent French writer just named, who arrives at this conclusion: that "the curability of cerebral softening no more admits of doubt than does that of pulmonary consumption." The whole paragraph in the first edition containing what Dr. Gross called "the extraordinary assertion of Dr. Louis that he has never in a single instance seen an organ affected with tubercles independently of the pulmonary tissue," is omitted, and in its place we find that "Dr. Louis has ascertained that tubercles rarely, if ever, occur in any organ of the body after the fifteenth year, unless they also exist in the lung;" and that this result "has been verified by other observers, and may, therefore, be regarded as constituting an important law." Our author no longer believes that typhoid fever will be attributed "to a primitive lesion of the mucous glands." In the full and satisfactory account he now gives of typhoid fever he speaks of ulceration of Peyer's glands as "the fundamental lesion" of the disease, and carefully abstains from expressing any opinion as to whether this lesion is a cause, an effect, or a mere coincident of other morbid changes.

We regret to see that Dr. Gross persists in regarding *crusta lactea* (eczema impetiginoides, Rayer; impetigo larvalis, Cazenave,) as contagious, making it a variety of porrigo, which latter, as he correctly states, is essentially contagious. It is so common a disease amongst children that the physician should be prepared to relieve their parents from any apprehensions of its spreading by contact. The opinion expressed by Dr. Gross is wholly unwarranted by any authority with which we are acquainted.

The limits of this notice have prevented our doing much more than vindicate the previous criticism of Dr. Gross' treatise from the charges made against it, and we have done so by adducing the authority of the revised and corrected declarations of the Professor himself. In such an alliance it is to be hoped that our strictures will escape impeachment. Were space and leisure for the work allowed us, we should take pleasure in presenting an analysis of the more important parts of "the Elements," but this satisfaction we are obliged to forego. After such an examination as we have been able to make of several portions of the work, we feel no hesitation in expressing the opinion, that it is altogether the most complete exposition of Pathological anatomy in our language. That it has defects is very true, but we have yet to see the treatise which is free from them; it would be easy to point out instances amongst works of high reputation, where the faults are much more numerous, and the merits far more rare. We think that the scientific literature of our country may be proud of this addition to its scanty treasures; and we sincerely hope that the several medical schools will avail themselves of it to imbue their pupils with respect and love for a department of education which the cultivation of microscopic anatomy and of organic chemistry has caused to be too much neglected.

A. S.

ART. XIX.—*Fourth Annual Report to the Legislature, relating to the Registry and Returns of Births, Marriages, and Deaths in Massachusetts, for the year ending April 30th*, 1845. By JOHN G. PALFREY, Secretary of the Commonwealth. Letter to the Secretary from LEMUEL SHATTUCK, Esq. Boston: pp. 106, 8vo.

WE have heretofore noticed the several reports of a similar kind which have been put forth, for three years past, through the intelligent and liberal policy pre-

vailing in the Old Bay State. Though by no means so full or accurate as could be desired, still these reports embody a great amount of highly interesting and valuable information relative to the progress of population. The present report shows a considerable increase in the number of births, compared with the returns of the previous years, indicating more attention to the registration in this branch of the subject. But the returns of marriages and deaths fall short of those made in the years 1842, 1843, when the law did not require so many particulars to be given. Fifteen townships made no returns whatever, and, strange as it may appear, Boston is included among the delinquents. The last is particularly to be regretted, not only because this flourishing city contains nearly a seventh part of the whole population of the State, but that the occupations of its citizens are connected with questions of peculiar importance in relation to vital statistics. The whole number of births and deaths returned, do not probably exceed a half of what actually took place in the commonwealth. The marriages recorded are probably three-quarters of the actual amount.

The most interesting portion of the Secretary's Report is the Appendix made by Mr. Lemuel Shattuck, by whom the tables were prepared. This presents many strong arguments in favour of the importance of the Registration System, along with general inferences from recent returns, and comparisons of the facts heretofore collected in the state with similar data obtained in other countries. We shall confine our notice to Mr. Shattuck's letter, in which this zealous statistician exhibits a high degree of intelligence and industrious research. It is to be regretted that he had not more perfect data to work upon, since most of his deductions are now to be regarded rather as approximations than as positive results.

The number of births, marriages and deaths, registered under the Registry Law of Massachusetts, in all the counties but Suffolk, were during the four years as follows:

	1842	1843	1844	1845
Births - - -	8,470	8,659	14,646	15,564
Marriages - - -	4,974	5,023	4,275	4,841
Deaths - - -	7,491	8,305	8,250	8,642

Marriages.—The table of marriages shows that in Massachusetts 40·59 per cent. of the males married in 1845 were between the ages of 20 and 25 at the time of marriage; whilst in Belgium the usual proportion married between the same age was only 15·65 per cent. The number of marriages appears to have been considerably influenced by the seasons, or rather by the customs of the country, varying from 554 to 1,305 per month. The smallest number occurred in July, the largest in November, the last being the month of the annual Thanksgiving festival in New England.

Births.—In the two first reports, no distinction was made in the sexes in the returns of births. But for the years 1844, 1845, such a designation has been made, and it appears that

	1844	1845
The whole number of births were - -	14,646	15,564
Of which the male births constituted - -	7,344	77,93
" female births " - -	6,991	7,594
" births without designation of sex were	311	177
The proportion of females to 100 males was therefore	95·08 to	97·44
The males to 100 females - - -	105·04 to	102·62

Mr. Shattuck's tables do not show that the number of births in Massachusetts is influenced materially by the seasons. The proportion of *twin* births was, in 1845, 1 in 129; and that of *triplets*, 1 in 7,261 cases of lying-in.

Deaths.—The table of mortality shows that the smallest number of deaths generally occurs in May and June, and the greatest in August and September, varying from 582 to 1092 in every 10,000.

In adverting to a tabular statement showing the ages at which the deaths occurred, Mr. Shattuck observes:

"One of the first ideas presented by this table, is the remarkable increase of infantile mortality within the four years, being from 1157 to 1762, or 605; over 6

per cent. And from the table it appears that this increase has been nearly gradual each year. Some variation is presented in other ages, but in none is it so striking as in that under one year. Are we aware that 17·62 per cent. of all the deaths, are of children under one year old? In a work on the Vital Statistics of Boston, which I published in 1840, the attention of the public was called to the great proportional increase of deaths among children under five years of age in cities; but I was not aware, until I made the above calculations, that in the more rural districts embraced in this report, the same causes had been in operation there, though not in an equal degree, to destroy human life at its very beginnings. Such developments should arrest the serious attention of parents and all concerned, to ascertain and remove, if possible, the destructive agencies at work among us on this class of human beings."

"It is melancholy to think," he observes in another part of his letter, "that out of 30,761 persons, whose ages are known and embraced in the reports for the past 4 years, 13,154 died under 20 years of age, and before they had attained their full maturity of life; more melancholy that this great mortality among the young is increasing from year to year; and more melancholy still, that it is owing to circumstances which are mostly within the control of the people, and are partly preventable, if known and understood.

"It may seem strange that any attempt should be made to estimate in money what money did not procure, and cannot restore if taken away; yet the inclination of some people is to estimate every measure by the profit or loss in dollars and cents which it will produce, rather than by any general good it affords to humanity. These considerations justify the remarks I propose now to make.

"Looking at this subject, then, merely in a pecuniary point of view, and upon man merely as a producer, who is to add to the wealth of the state, we must consider this subject of registration and its consequent developments, as having a most important bearing upon its prosperity. In this view, man may be regarded as worth so much to the state as his power of production exceeds the cost of his maintenance. We may look upon all expenditures for his support and education, during infancy and childhood, as so much capital invested, which may be made profitable, when he shall receive his full development and productive power. The death of all children may be considered a loss equal to the whole cost of their previous maintenance. Some persons open family accounts with every child, and can at any time show the expenses incurred. It may be below the truth to estimate the average annual expenses which each child in the state incurs, at $50.

"The population of Massachusetts may now be estimated at 800,000. From the returns of deaths received, I have estimated the whole number of deaths in the state last year to have been 14,000, which is nearly 1 in 57, or 1·75 per cent. of the population. Of these 14,000, there died at least 6,000 children and youth under 15 years of age. Estimating the average ages of the whole of these in the same proportion as those actually known, it will give for each about 4 years, or 24,000 years of life for all. This, at $50 a year, amounts to $1,200,000 as the cost of their maintenance. And all this sum was lost to the state last year by premature deaths, before any return could be made for it. Can any one doubt that half, at least, might have been saved by proper knowledge and care?

"The proportionate number of deaths among the young has been increasing for several years past in this country, as our investigations prove; and we see no reason to believe it will be less, until more knowledge is diffused in regard to the laws of life and the liability to death, under different circumstances. This immense loss of the productive power of the state may be considered as an annual tax, which the people must pay every year, until they find out and use the means of prevention.

"It has been said that the strength and dignity of a nation consist not in its lands, its houses, its wealth,—but in its people. And I have already stated, that that people is most prosperous which contains the greatest proportionate number of the productive age. In the above calculation we have not taken into account the loss sustained by the death of those belonging to this age. This would greatly swell the amount of loss. We have stated that by care and attention the late Dr. Ripley probably added 50 years to his life. We are now considering time as

money, labour as money, *life as money*, and not the real, moral value of that good man's services. Estimating then this time to be worth $1.00 per day, or $300 per annum, the 50 years of life were worth $15,000, and that sum was saved by the prolongation of his life. The deaths in this state last year, as we have estimated, were 14,000. Of these, 5,000 probably died between 15 and 60 years of age. Let us suppose that by proper knowledge of the laws of health and a proper care in obeying these laws, 5 years might, on the average, have been added to each of their lives,—and this seems not an extravagant supposition,—then we should have saved instead of losing, as we have done, 25,000 years of life, which, estimated to be worth in this adult age, only $150 a year, would have produced $3,750,000! And this loss must be annual!

"There is still another view of this great subject. William Farr, Esq., one of the ablest writers on Vital Statistics of the age, stated in McCulloch's Statistical Account of the British Empire, that "when 1 person in 100 dies annually, 2 are constantly sick; although this exact relation is, perhaps, not preserved in infancy and old age, or where the rate of mortality deviates from the standard, it may be safely assumed as a near approximation to the truth." This principle may be more simply expressed thus:—The proportion of persons constantly sick in a population, is double the annual proportion per cent., which the deaths bear to the living in that population. According to the estimate already given, the proportion of deaths to the population in Massachusetts was 1 in 57, *or* 1·75 *per cent.* Double this per centage, and we have 3·5 as the proportion per cent.; and this proportion of 800,000 is 28,000, the actual number constantly sick in this state.

"Sickness occasions a twofold loss; one for the time and labour of the sick, and the other for the nursing, medical attendance, medicine, and other expenses, which they require. The first may be estimated at $50, and the second at $150, or $200 per annum for both, which multiplied by the 28,000, give a total annual loss by sickness of $5,600,000! It is supposed that half of this sickness is preventable, and that half this enormous sum might be saved if the laws of health were properly understood and obeyed.

"We might save then—

By diminishing the mortality of infancy and childhood,	$600,000
By prolonging the lives of adults,	3,750,000
By preserving the general health and diminishing sickness,	2,800,000
Making, according to this view, an annual total saving of	$7,150,000

"This amounts in ten years to $71,500,000, or about *one-quarter of all the property of the commonwealth*, according to the valuation of 1840!

"This is a pecuniary view of the subject But, however striking it may appear, it deserves not to be mentioned, when contrasted with another, which presents itself. The amount of widowhood and orphanage which death occasions, and the poverty and suffering which often accompany them, may be estimated by the community or individual who contributes to their relief. Man may be convinced that vast losses are annually incurred by neglect of health, and that any sums expended to prevent them would be a capital invested, on which an enormous interest would be paid, by diminishing the sickness and mortality and increasing the productive labour of the people. But who can estimate, in dollars and cents, the care, anxiety and suffering, mental and physical, which the premature sickness or death of a husband or wife, a father or mother, a son or daughter, a brother or sister, a friend or connection, may occasion? Who can tell how much even one such death, by blighting earthly hopes, impairs the vital energies of the living, and accelerates the approach of another? The mental anguish and physical suffering which sickness and death produce, may possibly be feebly figured to one's own imagination, but their full force must lie concealed in the mind of each individual sufferer.

"But we would not rest our reasons in favour of registration on any pecuniary view of the subject. Man is not a mere producer—a mere machine. His life or death, his happiness or misery is much too high an object upon which to place a pecuniary value. He is more nicely made, more wonderfully organized, requires to be guarded with more care from any influence that may surround him, to pro-

duce disorganization and unfit him for use, is capable of higher and more noble purposes, and has a higher and more noble destiny; and in proportion as in each of these he exceeds a mere machine, in such proportion ought we to regard his intellectual and moral nature, and the means used to preserve and develop his physical powers, to enable him best to accomplish the great purposes of his intellectual and moral existence.

"This is a matter of great magnitude. It deserves that full illustration which could only be derived from facts preserved and gathered from every part of the state. 'As there is a poverty that is self-inflicted, and may be self-removed,' says a late writer, 'so there is a certain amount of disease and annual mortality in every place that is self-inflicted: and the community that does not strive by every available means to reduce its disease and mortality bills to the lowest sum of human suffering, and the lowest rate of annual mortality, is as guilty of suicide as the individual who takes with his own hands the life God has given, and hurries unbidden into the presence of his Judge.'"

Mr. Shattuck presents an interesting table showing the comparative prevalence of the different classes of diseases, taking 10,000 as the basis of the calculation for all known causes of death.

The proportion of deaths from *Zimotic*, or epidemic, endemic and contagious diseases, *is* supposed to afford the best index to public health. It appears that the proportion of these had increased considerably in 1845, over that of the previous year. Cholera infantum, croup, dysentery, fevers, and scarlatina, were the principal diseases furnishing the increased mortality. Nearly a quarter of the whole number of deaths from this class, was occasioned by scarlatina.

Diseases of the organs of respiration, produced nearly one-third of all the deaths. Consumption caused 2,072, or 2,567 in every 10,000 deaths. The tables showing the ages and months of the year in which the deaths from phthisis took place, make it apparent that although the age exerts a great influence in predisposing to the disease, the effects of seasons is hardly perceptible.

Diseases of the digestive organs.—As several of the zimotic diseases, such as cholera, cholera infantum, diarrhœa and dysentery have their seats in these organs, another division may be made, as follows:

	1842	1843	1844	1845
Zimotic diseases of the digestive organs	792	724	547	795
Sporadic diseases of the digestive organs	418	748	612	641
Total of both	1,210	1,472	1,159	1,436

From this statement it appears that the deaths from affections of the digestive organs constitute an eighth or a ninth part of the deaths from all other diseases. The age and seasons exert great influence in their production; more than two-thirds of all the deaths by these diseases occur in subjects under two years of age, and in the months of August and September.

In reference to the measures within the powers of legislative bodies to adopt for the alleviation and preservation of communities against diseases and its fatal consequences, Mr. Shattuck makes the following remarks:—

"It may be asked, what can the government do to arrest the hand of death? We do not suppose that an act of the legislature can compel a child to live, or an adult to keep his energies in a healthy state of action. But it is as certain that human life may be prolonged by knowledge and care, as it is that an ox will fatten, a silk-worm spin its thread, or a plant thrive better where knowledge and care are bestowed, than where they are not. Let the facts which the Registry System proposes to collect concerning births, deaths and marriages, and the circumstances which attend them, be collected, digested, arranged, published and diffused annually, and their effects on the living energies of the people would be incalculable. They would be an annual lesson on the laws of human life in their operation among ourselves—a kind of *Practical Physiology* taught in all our towns and at our firesides—and hence, far more instructive and impressive than any derived from books. They would teach our people how to understand human life and how to improve, prolong and make it happy. They would also teach a highly important moral lesson. Registration would sometimes operate as a check

upon vice, and it would lead our people so 'to *number* our days as to apply our hearts unto wisdom.' It behooves the state to develop and preserve its productive power—the lives and health of the people—as much as possible, and search out those causes which tend to blast it in its bud, or wither it in its ripeness.

"These are not the speculations of a visionary theorist, but the legitimate deductions from serious, sober facts. We are not a theorist—an experimentalist. We have no sympathy with the opinions of some modern reformers, who seem to be governed by theories founded on uncertain, partial data, or vague conjecture. We are a statist—a dealer in facts. We wish to ascertain the laws of human life, developed by the natural constitution of our bodies, as they actually exist under the influences that surround them, and to learn how far they may be favourably modified and improved. This can only be done by an accurate knowledge of the facts that are daily occurring among us. These matters are important to the physician to aid him in curing the sick, but far more important to the people to aid them in *learning how to live without being sick;* and they deserve the serious consideration of all persons in this commonwealth.

"To show that these matters are practicable, we cite the example of other governments. In most European states, facts of this kind are registered and collected in a careful, systematic manner, not for the purpose of aiding any police regulations, as some have erroneously supposed, but for the physical benefit of the people. And, whatever we Americans may say to the contrary, the average longevity in many places where these measures have been in operation, appears greater than with us.

"Geneva was one of the earliest cities to establish a system of registration of births, marriages and deaths. The registers were begun as early as 1549, and have since been continued with great care. They are viewed as præappointed evidences of civil rights. The registration includes the name of the disease which caused the death, entered by a district physician, who is charged by the state with the inspection of every person who dies within his district. A second table is made up from certificates setting forth the nature of the disease, with a specification of the symptoms, and observations required to be made by the private physician who may have had the care of the diseased. These registers have been frequently examined. I have before me the results of an examination made by Edward Mallet, a very able work, published in the 'Annales D'Hygiène.' From this work it appears that human life has wonderfully improved since these registers were kept. The number of years which it was probable that every individual born would live, appears in the different periods as follows:—

Period.	Years.	Months.	Days.	Rate of Increase.
1550 to 1600	8	7	26	100
1600 to 1700	13	3	16	153
1701 to 1750	27	9	13	321
1751 to 1800	31	3	5	361
1801 to 1813	40	8	10	470
1814 to 1833	45	0	29	521

Showing that the mean duration of life has increased more than five times during these periods!

"The progression of the population and increased duration of life have been attended by a progression in happiness. As prosperity advanced marriages became fewer and later. The proportion of births was reduced, but a greater number of the infants born were preserved, and the proportion of the population in manhood became greater. In the early ages, the excessive mortality was accompanied by an excessive fecundity. In the last ten years of the 17th century a marriage still produced more than five children; the probable duration of life attained was not 20 years. Towards the end of the 18th century, there was scarcely three children to a marriage, and the probabilities exceeded 32 years. At the present time, a marriage only produces 2¾ children, and the probability of life is 45 years.

"Geneva has arrived at a high state of civilization. The real productive power of the population has increased in a much greater proportion than the increase in

its actual number. The absolute number of the population has only doubled during three centuries; but the value of the population—the productive power, has more than doubled upon the mere numerical increase. In other words, a population of 27,000 in which the probability of life is 40 years for each individual, is more than twice as strong for the purposes of production, as a population of 27,000, in which the probability or value of life was only 20 years for each individual.

"This wonderful improvement is attributed, among other things, by M. Mallet, to the information obtained, rendering the science of public health better known and understood; to larger, better and cleaner dwellings; to more abundant and more healthy food; and to a better regulated public and private life. He cites an instance of the effects of regimen in the preservation of life, where 86 orphans had been reared in one establishment in 24 years, and one only of whom had died. They were taken from the poor, among whom the average mortality was six times as great.

"We have been accustomed to cite the example of Prussia as worthy of imitation in the measures she has taken to promote the intellectual advancement of her people; but her measures to advance their physical energy and power deserve equal if not greater praise. Every fact there is gathered with great care under the direction of a central officer at Berlin, and arranged and published for the benefit of the people. Not long since I received from M. Hoffman, the director of the Statistical Bureau at Berlin, a paper on the Average Length of Life in the Prussian States, two extracts from which, translated from the German, I propose to present to show how these things are managed under that government. I have also other similar papers detailing the births, marriages and deaths.

"The first extract is designed to illustrate the principle of the average length of life, and to show its operation under different circumstances, and the manner in which it was obtained in Prussia.

"'The average length of life from birth up, will be found expressed in years and fractions of years, if we divide the number of the living by the mean proportion of annual deaths. For example, if among 1,000 there annually die, upon an average, 25, then the average length of life will be 40 years: that is, these 1,000 persons, taken together, live 40,000 years, and to each one of them, in the average, falls a life of 40 years, different as the length of life among individuals may actually be. The same result may arise in very different ways. A great many may die early and yet the few survivors live so long, that still the average for each among the thousand will be 40 years; or the great majority may attain to but a little above or below forty years, and very few die early or live to a great age. If, for example, 600 were to die so early as to average only 12 years a piece, or altogether 7,200 years, still an average of 40 years might result for the whole 1,000, if the other 400, taken together, were to live 32,800 years, or on an average 82 years each. But the same average length of life for the 1,000 would occur, if the first-mentioned 600 should reach, on the average, 36 years each, or, all together, 21,600 years; then the other 400, taken together, would live only 18,400 years, giving an average of only 46 years to each individual. It is clear that the condition of human society would be a very different thing, according as one or the other of the above hypotheses should be realized. Consequently, observations of this sort are particularly instructive, when the mean duration of life is reckoned, not merely from birth up, but also from certain other remarkable points in the course of human life. The age of those who die is commonly given, and hence it is easily possible to determine the number of those who died after the completion of a certain age. Thus, by comparing the annual entries upon the records in the Prussian States, we see how many died after the completion of their 1st, 2d, 5th, 7th, 10th, 14th, 20th, 25th year, and then again, from 5 to 5 years until the completion of the 90th year. With these aids it has become possible to ascertain the mean duration of human life, for the last-named and peculiarly important divisions of life. This must be done separately for each of the sexes, since remarkable differences appear between them. It is known that for 100 girls, 105 or 106 boys are born, but this excess generally dies away during the first year of life; hence from birth up the mean duration of the male sex appears smaller than that of the female; but this difference, for the most part, van-

ishes in the mean duration for those over one year, which is found to be considerably greater than that for the newly born, because they have already happily survived the first and most dangerous year of life. The mean duration for those over 14 is for the most part not very different from the mean duration for those over one year old; the diseases of childhood are past at the close of the 14th year, and this increases the hope of life; but then the 14th year completes a fifth part of the natural term of life, if we reckon it at seventy, and this again diminishes the hope of living. For those over 60, the mean duration of life in most of the provinces is not much under ten years, sometimes a little more.

"'The difference of the mean duration of life in the different divisions of the Prussian States is very considerable.'"

These are a few of the results and inferences due to the Registry System, established in Massachusetts, the only State in our Union that has undertaken to collect and record facts, calculated to throw light upon the condition and progress of our population. Every successive report shows an advance towards that perfection, which, under the fostering attention of such men as Mr. Shattuck, must soon be attained. G. E.

ART. XX.—*Elements of Materia Medica and Therapeutics.* By JOHN P. HARRISON, M. D., Professor of Materia Medica and Therapeutics in the Medical College of Ohio. Vol. II. 1845: pp. 619.

IN our April number for 1845, we presented to the readers of this Journal a notice of the first volume of the above-mentioned work, which contained the outlines of the whole treatise, an exposition of the peculiar doctrines of the author, the classification adopted by him, and some remarks upon the different subjects of which he treats, and upon the class of *alterant* medicines.

In the second volume, now before us, completing the work, the remaining classes of medicines are treated of. Of these we have only space for a passing examination. Chapter first is devoted to "*Particular Evacuants*," including *Bloodletting, Emetics, Cathartics, and Enemata.* Under the first head are discussed the several modes of drawing blood, the physiological and therapeutical effects of blood-letting, the methods of investigation by which we arrive at a knowledge of the expediency of taking blood in disease, the circumstances qualifying the therapeutical use of the remedy, the practical applications, morbid effects of and substitutes for it.

The modes of drawing blood are those specified in all works on minor surgery. The author draws a distinction between the abstraction of blood in small and in large quantities, and bases his view of its action, in the former of these ways, as an *alterative*, upon the exposition given by Dr. Rush. In chronic diseases this application of blood-letting has by the European surgeons been termed its *revulsive action*, which would in fact seem better to expose the views of Dr. H., as he expresses himself in the following language: "the *modus curandi* of small bleedings in chronic affections we conceive to be as follows; the persistence of morbid action of a subacute inflammatory character, depends either upon an increased general momentum of the circulation, producing *irregular determination to the part affected*, or a *relative plethora creating excessive accumulation.* In either of the above conditions of the general vascular system, small bleedings effect much good, by tranquilizing the excited action of the heart and *relieving the organ or part diseased of the oppressive quantity of blood thrown upon its irritable structure.*" He thinks that the therapeutical employment of the lancet in subdued forms of chronic inflammation has been too much neglected, and leeches and cups too much relied on.

The means of determining the propriety of the loss of blood are the pulse, the pain, disturbed functions, (constitutional disturbance?) appearances of the blood and tolerance of its loss. The remarks of the author upon the pulse are sound and sensible, showing that he is not impressed with any theory which has taken precedence of observation and judgment; they are also full, and to the student must be satisfactory. Upon this subject the concluding sentence will show the tenour of his views: "Whilst, therefore, we avail ourselves of the best lights

afforded in diagnosis and prognosis which the pulse furnishes, let us remember that in too many instances this great function is but *res fallicissima*, in guiding to a correct appreciation of the nature and seat of disease, and of the true therapeutic indications to be established in the treatment."

The value of pain as a symptom is also fully entered into, and the indications from deranged function cursorily developed.

The appearances of the blood in disease have been studied, explained and commented on from the earliest times to the present; solidist and humoralist have each dwelt more or less upon them, and all modes of accounting for their diversity, vital, mechanical, and chemical, have been exhibited. Interesting as are the details presented, we must regard this subject as one of the still undeveloped mysteries of organism, obscure because the elements are wanting to unfold it, presenting under the present facilities of discovery, a deep and rich mine for experimental research, in which Andral and Gavarret, Simon and Liebig, &c., have commenced to explore, but have scarcely penetrated beneath the surface. From the existing state of information we agree then with our author as regards the entire "insufficiency of the proof afforded by the appearances of the blood for the interference of the hand of depletion."

Under the head of *tolerance of loss of blood*, the doctrine of Dr. M. Hall and Mr. Wardrop, that blood-letting is to be carried to syncope, according to the first in the upright position, is combated. The arguments presented may be summed up as follows: It is not applicable to delicate persons and children; the rule may mislead the judgment in febrile and inflammatory cases; in some cases syncope can hardly be brought on, and the same is the case in some diseases, as apoplexy; syncope is but one of the modes in which the loss of blood affects the powers of life; it is a pointed mode, but a severe one, one of dernier resort in severe cases; the diminution of the quantity of blood in the vessels in high febrile or inflammatory action must be lessened whether syncope be induced or not.

The *modifying circumstances* are those usually discussed, and are fully stated. In a brief notice like the present, we cannot go into the extended section of the practical application of this powerful arm of medicine. In connection with that of his own experience, Dr. H. appears to have borrowed all the light which modern researches and opinions have thrown around the practical application of blood-letting, and has exhibited it for the advantage of his readers. The cases he cites, in confirmation of his counsel with respect to particular diseases, are interesting and instructive.

We pass by the *morbid effects* which, as detailed, are such as are contained in all the books on this topic, as well as the auxiliaries and substitutes for blood-letting in inflammation and fever; the former being those known to every physician of practical experience, and commonly inculcated,—the latter resolving themselves into accessories.

The classes of *emetics* and *cathartics*, which complete the section on evacuants, are exhibited in their several relations in the same way as the preceding—the modus operandi being given as an introduction to their uses; with respect to emetics, an exposition of the mode of operation is presented which we do not recollect to have met with in any systematic work on the materia medica. It is that which has been proved to be correct by Dr. Hall, and sustained in his communications to the London Lancet. We shall quote the language of the book before us. "In the act of vomiting, the lungs are filled with air, the larynx is closed, the diaphragm is inert and floating, its apertures open, the pharynx, velum pendulum, and arches of the palate drawn up, and the abdominal muscles powerfully contracted. Thus the stomach is compressed, whilst the cardiac orifice is patulous, and by the antiperistaltic motion of the stomach the pylorus is strongly contracted."

As presented in the schedule of the classes contained in our first notice, the remainder of them follow in their appropriate order. Under the head of stimulants are ranked alcohol and camphor, which is not the place where they are sometimes found in treatises, as their narcotic action is supposed to preponderate.

In concluding this necessarily cursory notice of Dr. Harrison's book, we cannot forbear to remark upon a point which to us appears to constitute a glaring defect, and this is, the little attention the author has paid to his pharmaceutic nomenclature. Thus, under the head of ipecacuanha we find the preparations thus stated,

vinum ipecacuanha, syrup of ipecacuanhæ, pulvis ipecacuanha compositus, pilulæ ipecacuanhæ compositæ, all of which names except the last are incorrect. The errors are for the most part typographical, but, were they corrected, there is still an incongruity in a mixture of English and Latin. We find the same inadvertence in other places. It is to be hoped that Dr. H. will obviate this defect, should his work come to a second edition, and recommend to him with all deference the strict nomenclature of the U. S. Pharmacopœia. J. C.

Art. XXI.—*On Diseases of the Liver.* By George Budd, M. D., F. R. S., Professor of Medicine in King's College, London; and Fellow of Caius College, Cambridge. With coloured plates and numerous wood-cuts. 8vo. pp. 392: Philadelphia Edition. Lea & Blanchard, 1846.

The treatise of Dr. Budd will be found a valuable addition to the library of the practitioner. The new light that has been thrown upon the minute structure of the liver by recent investigations, and the important additions which have been made of late years to our knowledge of its pathological conditions and the changes in its structure thence resulting, have rendered a treatise embodying the present state of our knowledge in relation to the various morbid affections of the organ and its appendages, an important desideratum, which has been very ably supplied by the work before us.

The opportunities enjoyed by the author for the study of the pathology of the liver appear to have been sufficiently ample, and to have been cultivated with commendable industry; while his intimate acquaintance with the observations of others engaged in the same field of inquiry with himself, is shown by his frequent reference to their labours.

In the introduction, we are presented with a very excellent abstract of the present state of our knowlege in regard to the structure and physiology of the liver—including a notice of the cause of the variations in its form, size, and colour—the physical qualities and composition of the bile—its sources and uses; with a few sensible remarks on cholagogue medicines. The structure of the liver is illustrated by eight wood-cuts.

The *first* chapter is devoted to congestion of the liver. The *second* to inflammatory diseases of the liver. Suppurative and gangrenous inflammation of the substance of the gland—adhesive inflammation of the capsule and of the substance of the liver—inflammation of the veins of the liver—and inflammation of the gall-bladder and ducts. The whole of the subjects embraced in this chapter are very fully considered in all their pathological bearings, and a good summary is presented of the proper therapeutical management of the several inflammatory affections to which the liver and its appendages are liable. This chapter occupies alone one-third of the whole treatise.

The next chapter treats of diseases which result from faulty nutrition of the liver, or faulty secretion—softening of the liver—fatty degeneration of the liver—scrofulous enlargement of the liver—excessive and defective secretion of bile—gall stones. On each of these interesting points of the pathology of the biliary organ, the author has presented a series of very interesting observations. On the subject of gall-stones, especially, his remarks are very full and satisfactory.

The subject of the fourth chapter is the diseases which result from some growth foreign to the natural structure of the gland—embracing cancer of the liver—hydatid tumours of the liver, &c.

The fifth and concluding chapter is devoted to the pathology of jaundice—which, although a mere symptom that may occur in most diseases of the liver, the author nevertheless considers a symptom so striking, and such an important element in any case in which it may occur, as to require a separate consideration.

Dr. Budd refers its production to two causes: 1st, some impediment to the flow of bile into the duodenum, and 2d, defective secretion on the part of the liver, so that the principles of the bile are not separated from the blood. He considers it probable, that in the cases in which an impediment exists to the flow of the bile through the common duct, the jaundice does not result merely from absorp-

tion of the retained bile, but also, in part, from the secretion of the liver being rendered less active by the distension of the gall ducts, and the consequent retention of the secreted bile in the lobules of the liver, so that the principles of bile are retained in the blood.

After an examination of the causes capable of producing jaundice, the author remarks as follows:—

"Since, then, jaundice may arise from such various causes, and be a symptom in diseases so different, it is clear that we cannot foretell its issue in any given case, or have well-grounded confidence in our treatment. unless we can pass from the jaundice to the particular cause by which it is produced.

"In some cases we have little difficulty in doing this. We can generally, for instance, interpret the slight shade of jaundice that occurs in the granular or hob-nailed liver. We are sufficiently informed of the nature of the disease by the previous habits of the patient, and by the symptoms of impeded circulation through the liver, that are almost always present in these cases, when there is jaundice. Frequently, too, we can interpret the jaundice that occurs during the passage of a gall-stone, or in the course of cancer of the liver, by the presence of other symptoms indicative of those diseases.

"When, again, there has been, for a considerable time, deep jaundice without any bilious tinge in the matter discharged from the bowels, and without alarming head symptoms, we may be sure that the common or hepatic duct is closed in some way or other, and that the jaundice results from mechanical impediment to the flow of bile into the intestines. But, in many cases, with our present knowledge, it seems impossible to trace the jaundice to its source, and especially to tell whether it depends on inflammation of the gall-duct, or on suppressed secretion of bile. Our knowledge of the causes of these several diseases at present helps us but little to distinguish them.

"In a former chapter I have given the details of several cases, collected from different authors, in which jaundice from suppressed secretion proved fatal, and in which the lobular substance of the liver was found to be completely disorganized, or very much softened. I placed these cases together with the view of exhibiting the characters of this obscure disease, which is far more important than the fatal cases merely, which are few, would lead us to suppose. It is clear, from the instances in which jaundice occurred in several members of a family in succession, that jaundice of this kind does not always prove fatal, and that occasionally it is attended by no alarming symptoms. It is possible, therefore, that a considerable proportion of the cases of jaundice that we meet with in practice, and especially in young persons, may be of this kind.

"It appears from the cases before related, that in mild forms of the disease, the patient's illness begins with general disorder; with languor or listlessness, vague pains in the belly, and sometimes with vomiting; but without much fever. In a day or two jaundice comes on, but the flow of bile into the duodenum is not *completely* stopped—the matters brought up by vomiting, or passed by stool, are still bilious. The jaundice may continue some time with no more alarming symptoms, and may then go off gradually, and the patient gradually recover. But, now and then, after it has continued in this state from a few days to several weeks, head symptoms come on, and the patient soon dies comatose.

"In more acute forms of the disease, the illness begins with symptoms more like those of remittent fever:—with fever, vomiting, and thirst, and furred tongue, and headache, and restlessness. In a day or two, jaundice comes on, soon followed by drowsiness, or active delirium, which speedily passes into coma.

"Two circumstances that may serve to distinguish this variety of jaundice, are, 1st, that the liver is not enlarged,—generally, indeed, in the cases that prove fatal, it is found to be much smaller than natural; and 2dly, that the flow of bile into the duodenum is seldom completely stopped; the discharges from the stomach and bowels are still tinged with bile."

The whole of this chapter on jaundice is an interesting one and replete with sound practical views, expressed with great clearness. We have quoted the above passage from it as well to give to our readers some idea of the author's manner of treating the subject, as from the fact of its having reference to a form of

jaundice of not unfrequent occurrence, the true character of which is not generally understood.

Had it been our intention to present an analysis of Dr. Budd's treatise, we might have indulged in repeated quotations from the preceding chapters, all of which contain matters not less interesting than important to the practitioner, in relation to a class of diseases the true pathology and correct diagnosis of which have only of late years been accurately investigated. Convinced, however, that the work is one which, being now placed, by its republication in this country, within the reach of every physician, will soon be added to the libraries of most of them, we have thought it merely necessary to express in general terms our estimate of its value. D. F. C.

ART. XXII.—*Du Hachisch et de l'Aliénation mentale; Etudes Psychologiques.* Par J. MOREAU, (*de Tours,*) Medecin de l'Hospice de Bicêtre, Membre de la Société Orientale de Paris. Paris, chez Fortin, Masson, et cte., 1845: 8vo. pp. 431.
Psychological researches in reference to the Indian Hemp and Mental Alienation. By J. MOREAU.

THIS book comes before the profession with high pretensions to originality,—claiming for its author a farther progress within the domain of the world immaterial than had been made by any of his predecessors,—new discoveries in regard to the philosophy of mind,—a revelation of some of the hitherto undeveloped mysteries of the pathology of psychology. With such imposing claims it ought, perhaps, to receive a more elaborate review than our limits will at present permit. We shall attempt, however, to give such an analysis that its general propositions, its pretended discoveries, and the true nature of the title of the latter to be considered as discoveries, may be clearly understood.

It appears that an extract of hachisch (Cannabis Indica, or Indian hemp), is extensively and habitually used among the Orientals,—the Egyptians, Syrians, and particularly the Arabs,—for the same purpose that opium is employed by the Turks and the Chinese, and the diverse modifications of alcohol by Europeans, Americans, and others. This extract is a stimulant narcotic, potent and peculiar in its action, giving rise to mental phenomena and muscular action strikingly analogous to those produced by the nitrous oxide, when inhaled, the effects of the former being, however, of much longer duration than those of the latter. That these properties of the hachisch may be more accurately understood, we shall give an abstract from two cases reported by M. Moreau. In the first, the man having taken a portion of the extract and seated himself at dinner, was seized with a violent fit of laughter. Dinner being over, he took a spoon and put himself on guard opposite a jar of preserved fruit, with which he supposed that he was to fight a duel. He then left the dining-room, laughing loudly. Desirous of hearing music, he placed himself at a piano and played part of an air from the *Domino noir.* Suddenly he saw above the piano the image of his brother, with a black queue, terminated by three lanterns, one green, one red, and one white. This image presented itself several times during the evening.

Seated upon a sofa our subject—not *patient*—felt as if he had become a mass of lead. Some one attempted to raise him, but he fell heavily upon the floor and prostrating himself in Moslem style, began a confession. Being raised, he seized a foot-stove and danced the Polka, imitating, in voice and gesture, several actors whom he had seen at the theatre. He next imagined himself at a ball, where he saw the brilliant lights and the masked dancers, and heard the noise of the crowd. Passing, now, into a dark room, he felt a sense of suffocation, and thought he fell into a well of immense depth,—the well of Bicêtre. To save himself, he grasped the stones of the wall of the well, but they fell with him. He was brought back to the lighted room, when he exclaimed, "Fool that I was! I thought I was in a well, but I am at the ball of the opera!" Running against a tabouret, he imagined it to be one of the masked dancers and requested what he supposed to be a police officer to arrest it. He called for lemonade, and told the servant to make it of a lemon less yellow than her face.

He now suddenly paused and passed his fingers through his hair. Millions of insects were devouring his head. He sent for an accoucheur to deliver one of the female insects that was in labour, and had selected for her bed, the third hair at the left of the forehead. After a painful labour, she was delivered of seven young.

He recollected a dinner party at which he had been a guest several years since, and saw the other gentlemen who were there with him. In a heaven of blue and silver he saw his child, with white wings, bordered with rose, and surrounded by other children who were flying, like himself. From this vision he fell "into the country of lanterns," where the men, the horses, trees, and streets were small lanterns such as are used on the evenings of the fêtes, to illuminate the Champs Elysées. They walked, danced, and were continually in motion, and in their midst were the three which had been attached to his brother's queue.

Having drunk some lemonade he imagined himself at the Ouarnier baths. When swimming, his head was plunged beneath the surface. He swallowed some water, cried, but the louder he cried the more water was swallowed, until he was rescued by a friend. "I cannot describe," says he, "the thousand fantastic ideas which traversed my brain during the three hours that I was under the influence of the hachisch. *I had my reason in the midst of this strange folly.*"

The following is translated from M. Th. Gauthier's account of the effects of the hachisch upon himself.

"The first access was now ended. In a few minutes I felt my usual sang froid, without headache, or any of the symptoms that accompany inebriation from wine, and much astonished at what had taken place. A half hour had hardly passed, when I again fell under the empire of the hachisch. This time the vision was more complicated and extraordinary. In an atmosphere confusedly luminous, thousands of millions of butterflies were sporting, their wings rustling like fans. Gigantic flowers, with chalices of crystal, enormous holly-roses, beds* of gold and of silver rose and spread themselves in blossom around me, with a crepitation similar to that of bouquets of fire-works. My hearing was wonderfully developed; *I heard the sound of colours*, green, red, blue, and yellow sounds came to me in waves perfectly distinct. An overturning tumbler, the noise of a rocking-chair, a word pronounced in a low voice, vibrated and resounded within me like rolling thunder. My voice seemed so strong that I dared not to speak from fear of overthrowing the walls of the room, or bursting myself like a bomb-shell. More than five hundred clocks, with their silvery and flute-like tones, sang to me the hour. Every object slightly touched gave a sound like the harmonicon, or the Æolian harp. I swam in an ocean of sonoriety, where floated like small islands of light, some melodies (motifs) of *Lucia* and of *the Barber*.

"Never before had such beatitude inundated me with its waters. I was so lost in vagueness, so absent from myself, so debarrassed of *self*, that odious witness which accompanies one everywhere, that I for the first time comprehended the nature of the existence of elementary spirits, angels and souls separated from the body.

"I was like a sponge in the midst of the sea. Every minute I was traversed by waves of happiness entering and going out through the pores of the body; for I had become permeable, and, even to the most minute capillary vessel, my whole being was imbued with the colour of the fantastic medium into which I was plunged. Sounds, perfumes, light, came to me through multitudes of capillary tubes, in which I heard the whistling of magnetic currents. According to my reckoning, this condition lasted about three hundred years; for the sensations were so numerous that the real appreciation of time was impossible.

"The access having passed, I found that it had lasted about a quarter of an hour."

Another access occurred, but without translating the account of it, we may use the words of Gauthier himself, at the close of that account,—"*voilà bien assez de folies.*"

Having subjected himself to the effects of the hachisch, at various times and in diverse degrees, M. Moreau perceived "in its action upon the moral faculties a powerful and unique means of exploration in the sciental pathogeny;" he "was

* *Lits*, in the original, but it should probably be *lis*,—lilies.

persuaded that, by it, one might become initiated into the mysteries of alienation, might penetrate to the hidden source of those disorders, so numerous, so various and so strange, which are designated by the term insanity."

This advantage, he appears to think, is owing to the asserted fact that, throughout all the erratic phenomena of thought and action produced by the hachisch, consciousness, and the power of observing and rationally appreciating those thoughts and actions, are preserved.

"To understand the mental processes of the insane, one must himself be deranged, but deranged without losing the power of judging of the psychical modifications of the faculties." Were we to admit the truth of this proposition of our author, we must still believe that he has put himself in the position of one who "begs the question" of an argument, by *assuming* that the mental condition in insanity, and when under the effects of the hachisch, is the same. He pretends, it is true, to have *demonstrated* that identity, but nowhere in his work can we find satisfactory evidence of such proof. The psychologic analogies, in the two conditions, are, as he has clearly illustrated, both numerous and striking, but the positive sameness of those conditions is, if not an assumption, at least a questionable inference.

Again, it is asserted that, under the influence of the hachisch, the mind is "in a veritable state of dreaming; but of dreaming without sleep." It consequently follows that in dreams, in insanity, and acted upon by the hachisch, the mental condition is identical. "The same difference," says Moreau, "exists between an insane man and a rational man (I have reference to the same individual) as between the man who dreams and the man who is awake." Here, again, that which he believes to have proved, is, if we understand his argument, merely an inference drawn from analogy.

After a long exposition of the similarity of the phenomena of the three conditions mentioned, and a discussion of the nature of illusions and hallucinations, the author devotes a section to "the action of various toxic substances," in which he arrives at the conclusion that, under the influence of nitrous oxide, opium, alcohol, belladonna, aconite and other narcotics, the mental condition is the same, and this condition is identical with that of insanity. Still further, he maintains, and proves, satisfactorily to himself, at least, the same identity of mental condition as applied to persons affected with cerebral determination of blood, under the powerful effect of passion, in a state of revery, (half-sleeping and half awake,) under high febrile excitement in convulsive affections, and subjected to the protracted effects of hunger, thirst, or cold. Granting all this to be proved, M. Moreau may well be entitled to the appellation of the Newton of mental pathology.

But in what manner has this generalization been effected? how this identity proved? "Not" says M. Moreau, "by a course of reasoning; not by inductions, the truth of which may always be suspected, but by facts which no doubt, no uncertainty can affect,—simple facts being made evident by interior observation." If we rightly comprehend the work before us,—and we have read it with much care—if we rightly understand the nature of the *observation intérieur, observation intimé*—to which he so frequently alludes, if we have properly appreciated the language and the logic of M. Moreau, the identity of condition in question is only deduced or inferred from the evident analogies which are shown by a comparison of the phenomena of his own mind, when under the effects of the hachisch, with those of the minds of dreamers, the insane, and persons subjected to the influence of the several substances, disorders, passions, privations, and exposures already mentioned.

In this opinion it is possible that we err. The author may have proved this identity, satisfactorily to himself, by tracing the mental phenomena in each and every condition, aforementioned, to a radical unity of cause, called by him the *primordial fact.* Permitted, as he claims to have been, to enter a hitherto unreached apartment of the temple of the soul; allowed, as he claims to have been, to be the first to investigate the abnormal intellectual processes by what he denominates *intimate,* or *interior observation;* blessed by being the Humboldt of the world psychologic, and looking abroad over the mental domain from a mountain-height never before attained, he believes that he has discovered "the primitive source of all the fundamental phenomena of delirium."

"There is one," says he, "which appears to be the primitive and generating fact (*fait*) of all the others. I call this the PRIMORDIAL FACT."

What is this prolific primordial fact? Let the author answer. It is "excitement (*excitation*), the primitive, generating fact of all the phenomena of delirium." p. 98.

"Let us repeat, then, that neither the will, nor the instinctive determinations become *irresistible* (as in impulsive insanity) in virtue of a lesion peculiar to themselves. There exists a primitive lesion of the understanding, a profound lesion, which, however, is sometimes so transient that the patients can hardly explain it to themselves, and with difficulty render any account of it. And still, this lesion is essentially the same as that from which arise all the phenomena of mental alienation, the most evident and the most strongly characterized. It is the *primordial fact* of insanity, it is *excitement*." p. 135.

"Now, the phenomena (illusions and hallucinations) which remain to be studied, escape not the common law which attaches all the principal phenomena of delirium to *excitement*, that primitive mental modification, primordial and generating fact of all alienation, which is contained within it as in its germ, as the trunk of the tree, its branches, leaves and flowers are contained within the seed." pp. 146–7.

"We shall always find excitement to be the primitive and generating fact of illusion. Whatever be the condition of the mind, by what emotions soever we may be agitated, so long as excitement does not supervene, there can be no illusions of any kind." p. 152.

"The hallucinatory state (for he says that 'properly speaking there are no hallucinations, but only a hallucinatory state') comes from the primordial fact which is the source of all the anomalies of the mind. It is a phenomenon of the interior existence, of the inter-cerebral life, or, that which is the same, of the *state of dreaming*." p. 168.

"*Excitement* constitutes the immediate effects" of the narcotic vegetables formerly used by sorcerers. "Excitement is, as we have so many times asserted, the primordial or generative fact of all disorder of the mind, but it is essentially a stranger to the particular forms which these disorders may assume." p. 202.

"Wherever an intellectual anomaly is observed, there will be found, as the generalizing and primordial fact, a disaggregation of ideas, or, if you please, *excitement*." p. 208.

"Here, in prolonged hunger or thirst, as always, the scene opens by all the most positive evidences of maniacal *excitement*" (p. 309) already declared to be the primordial fact.

"We find in these effects (of prolonged cold), as in all the other conditions of delirium, which we have passed successively in review, the clearest symptoms of intellectual excitement, of that state of semi-sleep, of dreams coincident with the waking state, which discloses the primordial state." p. 314.

"We have demonstrated experimentally," (that is, by the detail of cases, and the comparison of their symptoms,) "that wherever the curious phenomena of hallucinations are presented to our observation; that wherever this phenomenon is connected with the acts of real life, we infallibly find the psychical conditions, the intellectual modifications,—in other words the dynamic nervous lesion which the action of the extract of Indian hemp has taught us to understand, and which we have already designated as the primitive source, the generative and primordial fact of all the other pathological phenomena of the moral faculties." p. 316.

We had marked several other paragraphs of a similar character, but sufficient have already been quoted to show the views of the author in regard to *excitement*, and the relations between it and the diverse pathological conditions of the mind. Now, granting, if you please, to M. Moreau, that he has *proved* this "primordial fact—excitement" to be the primitive source of all mental disorder, we would ask, wherein is the difference between *this* excitement and *that* excitement to which all authors and all physicians have, from time immemorial, referred, when they have made use of the word in reference to insanity.

"We believe," says he, "that the primordial fact of which we have, in various parts of this work, sufficiently delineated the characters; that this primitive necessary source of the fundamental and constituent phenomena of delirium, has

completely escaped the observation of our predecessors," p. 357. We repeat, then, in what constitutes the essential difference between the mental excitement that has ever been acknowledged in insanity, and that hitherto veiled and recondite excitement, discovered by the *interior* and *intimate* observation of Moreau? The work itself throws no light upon this subject.

Although we think that the author has failed positively and fully to demonstrate the propositions the truth of which he believes himself to have established, yet it must be acknowledged that he has succeeded in the exposition of more numerous and striking analogies between the mental phenomena of insanity, dreams, narcotic influence, &c., than the reader may have supposed to exist. The work shows much study in the department of mental pathology: it is ingenious in its theories—for *theories* we think some of the propositions are—and it contains much interesting and valuable matter.

We hasten to conclude this notice, already more prolix than was intended, by a slight exposition of the most practical, though unfortunately the least elaborate portion of this work, the division devoted to therapeutics.

From several "considerations" detailed in full by M. Moreau, he deduces "a precise indication which may be expressed in a formula thus; preserve in delirium tending to a chronic state, its first acute condition, or recall that acuteness—revive it when it is threatened with extinction."

"The extract of Indian hemp is," says he, "of all known medicaments, the most eminently adapted to fulfill this indication." The history of seven cases of insanity, in which the hachisch was employed, is then detailed. The results in these cases were as follows.

Case 1st.—After the immediate effects of the hachisch had passed, the maniacal excitement returned, but was less severe than before. *The patient was obliged to work*, the excitement remained stationary eighteen or twenty days, when it completely disappeared and the patient returned to his family cured.

Case 2d.—Took the hachisch on the 6th July. Convalescence progressed rapidly, *the patient worked with ardour*, "the general delirium entirely disappeared, but there still remained a disposition to illusions. Some days afterwards, he thought he saw his brother among the patients; I showed him that such could not be the fact, and he readily perceived that he had been made the dupe of an illusion. During the remainder of the time until he was discharged I did not observe the least trace of delirium."

Case 3d.—This patient had hallucinations of the sense of hearing, took the hachisch, but still hears false voices, although, says the text, "he has never again fallen into the primitive maniacal delirium."

Case 4th.—Took hachisch in the beginning of July; towards the end of August was convalescent, though his extravagant ideas had not entirely left him. *He was compelled to work*, and a few days after, "he might be considered as cured."

Case 5th.—Took hachisch September 17th, "entered freely into convalescence" towards the end of November. Remained in the asylum as a "*garçon de service.*" "His reason is as lucid as his conduct is good, and in all respects irreproachable."

Case 6th.—Took hachisch June 5th. The next day he was better. "Some days afterwards he was sent to the farm of St. Anne, where *manual labour contributed promptly to his re-establishment.*"

Case 7th.—Took hachisch June 5th. July 1st, no sensible amelioration. July 2d, took hachisch again. "From the 3d to the 25th of July, the excitement evidently diminished. The patient takes better care of himself and progresses towards a cure. On the 14th of September he left the asylum in perfect health."

Such were the results of all the cases related by M. Moreau. It is left to our readers to judge of their value, as evidences of the therapeutic merits of the hemp, in insanity.

Dr. Conolly, in a clinical lecture upon mental disorders, says, "I believe there is very little of the genuine Indian hemp now in Europe, but if our observation of its effects in this asylum (Hanwell) is not altogether erroneous, it must become an important article in commerce. After some careful trials of the tincture of hemp, I feel justified in speaking well of it. It is chiefly useful, I think, in chronic cases. A drachm and a half, and sometimes two drachms, have frequently been given in chronic cases of recurrent mania, and although generally with good effects, sometimes without any effect whatever." P. E.

ART. XXIII.—1. *Seventh Annual Report of the Directors and Superintendent of the Ohio Lunatic Asylum for the year* 1845: pp. 72.

2. *Report of the Commissioners of the Lunatic Asylum, or Indiana Hospital for the Insane.* December, 1845: pp. 20.

3. *Public Documents of the Senate of the State of New York.* Nos. 12 and 23: Jan. 16th and 23d, 1846.

FROM the report of Dr. Awl, we learn that one of the additional wings to the Ohio Asylum has been completed during the past year, and is now occupied by patients. The other is enclosed. When this is finished, there will be accommodations for 350 patients.

	Males.	Females.	Total.
Patients in Asylum at commencement of year	79	67	146
" admitted during the year	86	64	150
" discharged and died	40	32	72
" remaining at the end of the year	125	99	224
Of those discharged there were cured	23	21	44
" " died	10	7	17
Whole number of patients admitted in seven years	373	318	691
" " discharged " "	253	214	467
Of whom there were cured	161	126	287
" died	44	30	74
Single, 340; married, 295; widowers, 16; widows 40			691

"It has, indeed," says the report before us, "been a trying year. Sickness has extensively prevailed, and the inmates of this institution, with other citizens, have, to some extent, been afflicted with acute disorders. First, with a severe, but happily, short visitation of the dysentery, in the spring, which proved fatal in but a single instance. Secondly, with chills and fever, in the latter part of summer and the beginning of fall." "In all, we had some eighteen or twenty cases of fever (intermitting and remitting) including the assistant physician and myself. One female patient was taken with the congestive form of the disease and died."

The following remarks by Dr. Awl are well worthy of a perusal by all physicians.

"The pathological condition of Insanity, in its primary and active stages, appears to be one of peculiar irritation, and not of the ordinary character of inflammation; and, by common consent, it is now settled, to the satisfaction of a large majority, if not all, the medical superintendents in the hospitals of the United States, that much general depletion, particularly by means of the lancet, in acute mania (the only form of the disease in which it is likely to occur) is very generally productive of injurious rather than beneficial effects:—that the symptoms which seem to indicate the use of blood-letting so strongly, are deceptive, exhibiting to the practitioner the *effect*, and not the *cause*, of the excitement. And, while active and excessive depletion may rapidly sink the physical strength, it, at the same time, renders the nervous system more susceptible and irritable, the actual violence of the disorder not only remaining unsubdued, but is often thereby increased. It is known that the loss of large quantities of blood is, frequently, succeeded by severe pain in the head, as if it were surrounded by a tight band, or having the sense [sensation] of an iron finger pressing upon some particular point of its surface; together with ringing of the ears, rushing and drawing, or cracking noises; vertigo, wakefulness or starting during sleep, intolerance of light and sound, and many strange and illusive feelings, which tend to permanent lunacy, or are productive of an alarming state of anemia, and chaos of intellect, from which weeks and months of care and judicious treatment can scarcely redeem the patient. These symptoms are, in some degree, calculated to mislead, and, as this state of exhaustion may follow what, in other circumstances, would justly be considered moderate and useful bleeding, there is greater need of caution.

"When the patient is young, vigorous and athletic, has redness of the eyes and complains of much headache, and there is, at the same time, considerable heat about the head, with throbbing of the carotid and temporal arteries, a single bleeding may not be incorrect; but even here, it is probable, local bleeding, by means of cups or leeches, with the constant application of cold water to the head, would be sufficient for every useful purpose, and, on several accounts, is greatly to be preferred.

"The frequent use of drastic cathartics is also objectionable, on account of the danger of producing irritation in the bowels, which may lead to diarrhœa or dysentery—troublesome conditions of disease, to which the insane are extremely obnoxious. Costiveness is undoubtedly to be obviated, but. for this purpose, the milder laxatives will generally succeed the best. Blue pill, and small doses of calomel will be found useful, as in other cases, where the secretions of the liver are unhealthy or deficient."

2. During its session for 1844–5, the legislature of Indiana appointed a Board of Commissioners and invested them with power to purchase a farm for a State Hospital for the insane, and to present plans of the proposed buildings. During the past summer one of the commissioners, Dr. John Evans, made a tour through the middle and eastern states, and visited ten asylums exclusively devoted to the insane, and two hospitals, a department in each of which is occupied by the same class of patients.

The document before us contains the report of this gentleman to the board of commissioners, and their report to the legislature.

Dr. E. appears to have a sound judgment, and his report shows that he pretty fully understands the business in which he is engaged. His remarks upon the site of an asylum, its construction, heating and ventilation, are very judicious, and may be of great assistance to others who, hereafter, may engage in a similar enterprize. After he had presented his report, the commissioners "proceeded to examine the country for several miles around the seat of government, and, after much investigation, purchased, for $33,12½ per acre, a farm lying two miles west of Indianapolis, on the Macadamized national road."

The plan proposed for the building differs from that of any other asylum. It consists of a central building, with two wings attached thereto, in the manner of those of the State Hospital at Worcester, Mass.; and at the extremity of each, another wing, attached to the first in the manner of those of the asylum now in progress at Trenton, N. Jersey. The whole, when completed, will present a front of about five hundred feet in length. It is proposed, however, to construct, at present, only the central building and the first two wings, leaving the other wings to be erected when they may be required.

3. The documents referred to, as having been presented to the legislature of New York, are reports from the "Committee on Medical Societies and Medical Colleges." One of them is upon "the subject of the State Lunatic Asylum at Utica, and also the state of the insane in the state," and the other upon "that portion of the recent state census relating to the number of idiots."

The Hon Mr. Backus who, as we have heard, is a physician, is the chairman of the committee.

In the first report it is stated that, according to the census of 1845, "the number of lunatics and idiots in the state is 3,752—2,142 lunatics, and 1,610 idiots. In 1840 there were reported 2,340 insane and idiots." "As to the situation of the lunatics of this state, at this time, we find at Bloomingdale 121 patients; at the Utica asylum 260; in the other country asylums, including private establishments, as far as we can ascertain, there are about 500; making in all about 900 in asylums. The number of the insane in the state, that by this statement would seem to be unprovided for, is 1,200, and these are mostly pauper lunatics, confined in poor houses, jails and private dwellings."

After some remarks upon the nature of insanity, its curability, &c., the committee proceed to discuss the subject of the most suitable size for an asylum. They say:—

"The policy of one mammoth institution for the state was a bad one. The

expenditures at that institution, when complete, would have erected four or five institutions in different parts of the state, of sufficient size for 250 patients each." As it is now, several of the counties "are so remote from the asylum that the expense of transporting the lunatics amounts almost to as much as their stay would in the institution, if it were a recent case. The English commissioners of Lunacy are unanimously of the opinion that no institution should contain more than 250, and that perhaps 200 would be the better number, as being as large a number as can be managed with the utmost benefit to themselves and the public in one establishment, especially if regard is paid to anything like a *curative process* being carried on for their relief."

The report concludes in the following words:—"There should be an ample supply of accommodation, solace and relief, for this form of human affliction (insanity) throughout the length and breadth of our state. *Your committee unanimously recommend the erection of an asylum for the insane, in the western part of the state.*"

The report in reference to idiots states that although the number of that unfortunate class is reported, by the census of 1845, to be 1,610, yet the committee have no doubt that there are 2000. The subjects of "Asylums or schools for idiots" is then discussed; the labours of Ferrus, Voisin, Fabret, Levret, Seguin, and some of the German philanthropists, in opening the way for imparting instruction to the congenitally imbecile, are noticed; and the report closes as follows:—

"Your committee, in conclusion, would ask,—Have we not laid enough before you to satisfy every member of this senate that something can be done for the relief of idiots? Why should not we do it? For the present we leave the subject for your consideration." P. E.

ART. XXIV.—*Twenty-fifth Annual Report of the Bloomingdale Asylum for the Insane.* By PLINY EARLE, M. D., Physician to the Institution, pp. 48.

THE report before us presents gratifying evidence of the prosperity and usefulness of this interesting branch of the New York Hospital.

At the date of the last report there were 104 patients in the institution. Since which 138 have been admitted, 113 have been discharged, and 11 have died, leaving 117 under care at the close of the year.

Of those discharged 61 were cured, 12 much improved, 20 improved, and 20 unimproved; the last being discharged at the request of their friends. Several premature removals are noticed, and unfortunate as this course is for the permanent interests of the insane, until perfectly correct views on this subject are more prevalent in the community, all the hospitals constituted like that at Bloomingdale will find it a frequent source of annoyance and regret.

The number of patients in the Asylum has been gradually increasing during the past three years, and the number of deaths has diminished. Dr. Earle anticipates a diminution in the number of admissions from New Jersey upon the completion of the state asylum now in progress of erection at Trenton. The number of residents of New Jersey admitted in 1845, was 32.

During the warmest six months of the past year the number of admissions was not so great by five, as during the coldest six months, which neither supports a prevalent popular opinion, nor coincides with the general rule, as inferred from the past history of that institution.

Eight cases of delirium tremens have been admitted during the year, which Dr. E. very correctly separates from insanity proper. We agree fully with the author of the report, and should be glad if such arrangements could everywhere be made as to prevent these cases from being sent to hospitals for the insane, where they are apt to be no little disadvantage to those who are properly the subjects for such institutions.

Among the "exciting causes" among the patients admitted last year, 7 are reported from intemperance, 8 from self-abuse, 4 injuries of the head, 5 from different forms of fever, 7 from child-birth, 8 from change of life, 13 from pecuniary losses, &c., 3 from religious excitement, 3 from political excitement, and 4

from jealousy. The terms "hereditary" and "constitutional" are rejected from the table, "in accordance with the belief that mental alienation is always induced by an exciting cause, even though the patient may have inherited a predisposition thereto, or may have a constitution highly susceptible of it,"—and we think with great propriety.

The admissions at Bloomingdale go to confirm the opinion that in this country, at least, the first invasion of the disease is more frequent between 20 and 30 years of age, than during any similar period of life.

The proportion of married and single among the admissions differs from what has generally been observed,—"the number of married being seven greater than that of the single," while in 5,332 patients received into twelve institutions, "the number of the single exceeds that of the married by 657, or very nearly 31 per cent."

The *school* for men patients has been continued, and "although the actual amount of available knowledge acquired must necessarily be small, excepting, perhaps, by a few of the younger patients, yet," Dr. E. believes, "the school may be accounted as one of the most valuable auxiliaries in the moral treatment." The amount of knowledge obtained from attendance upon a school or upon lectures in an insane hospital, is indeed but the smallest part of the advantages that are likely to be derived from them;—it is the steady discipline to which the patients are subjected,—the strong motive that is offered for self-control,—the presentation of new objects for thought and subsequent reflection which make them most valuable as means of direct mental treatment, and likely hereafter to be used much more extensively than has heretofore been attempted.

The course of lectures referred to in Dr. E.'s previous report, was continued till the approach of warm weather. Another course was commenced in September last, and with a good collection of apparatus and illustrations, appears to be giving great satisfaction. We agree fully with Dr. E., "that in proportion to the expense, no part of the means for mental treatment are more useful."

Restraining apparatus has almost ceased to be used at Bloomingdale, as we feel confident it soon must be in every well regulated and properly organized hospital. The "tranquilizing chairs" were taken from the halls twenty months ago, and neither of them has since been used; and we hazard little in predicting they never will be while the institution remains under the care of its present physician. The *camisole* is nearly the only form of apparatus used, and that in only a small number of cases.

The remarks upon moral treatment, religious worship, manual labour, attendants, &c., are all interesting, and well worthy of a place in the report which gives satisfactory evidence of some of the many improvements which have taken place in the institution, under the direction of its present zealous and efficient superintendent.

T. S. K.

ART. XXV.—*A Manual of the Diseases of the Eye, a Treatise on Ophthalmology.* By S. LITTELL, M. D., one of the Surgeons of the Wills' Hospital, Fellow of the College of Physicians of Philada., &c. &c. Second edition, revised and enlarged: 12mo., pp. 372.

FEW branches of medical inquiry have, of late years, been pursued with more ardour and industry than that which is included under the term ophthalmology. And if the knowledge possessed by the mass of the profession in relation to it, was in proportion to their means of enlightenment, we should be in a hopeful condition, at least, in reference to this interesting class of maladies.

It is but a few years since the voluminous and elaborate work of Dr. Mackenzie, of Glasgow, was republished in this country; and more recently the learned and admirable treatise of Lawrence has been issued, under the supervision of a practitioner of this city, whose judicious and valuable notes give increased interest to the work. Notwithstanding, however, the facilities thus furnished for acquiring a knowledge of this important class of maladies, so far, at least, as books can contribute to this end, the mass of the profession appear

to be unacquainted with the varied and diverse appearances which distinguish the numerous diseases of the eye from each other, and an understanding of which constitutes the only true basis for their successful treatment. Hence it is that most practitioners appear to consider the treatment of serious diseases of the eye as out of their proper province; and many persons suffering from these maladies, contracting the same opinion, submit themselves to the treatment of a class of charlatans who style themselves oculists, and who claim the exclusive possession of all the knowledge which has been developed upon this branch of medicine. The fact is too much overlooked, that the eye is composed of tissues similar to like structures in other parts of the body, governed by the same physiological laws, and liable to like diseases. The changes which occur in its complicated structure under the operation of disease, present to the eye of the pathologist a beautiful illustration of the origin and progress of those structural lesions which are constantly going on in the hidden recesses of the body, and which can only be ascertained or suspected from external signs or symptoms. This increased certainty, which ocular demonstration affords, invests the study of ophthalmology with peculiar charms, and has, no doubt, induced some of the most acute and brilliant minds in our profession to devote special attention to it. It has been cultivated as a sort of garden spot in the great field of pathology, from which the choicest fruits may be gleaned for the benefit of the general student. And as there is no portion of the human body of equal extent which, anatomically considered, presents so rich and varied a combination of means to ends, so there is no organ which furnishes such abundant materials for instruction and contemplation in the study of its diseases.

With these views, we consider ophthalmology as eminently deserving the attention of the medical student and practitioner, and we have no doubt that were this department of science more prominently brought into view in the teaching of surgery, great advantage would result to the student in the formation of more correct views of the progress of inflammation as it occurs in the different tissues, of the manner in which it is modified by these tissues, and of the various changes which it effects. In a word, the principles of surgery would receive important illustrations from this source, and might to a great extent be practically illustrated.

But we must hasten to lay before our readers a brief notice of the work before us, which we hail with peculiar pleasure as coming from a gentleman whose connection with the Wills Hospital has afforded him opportunities for observation in this department of surgery, which he has well improved and rendered available for the benefit of the profession. The first four chapters treat of diseases of the orbit, wounds of the eye and its appendages, diseases of the lachrymal organs and of the palpebra. The varied affections included under these heads are briefly examined, and their diagnosis and treatment indicated. Under the head of wounds of the retina, our author refers to an accident which we have on several occasions met with, but which we have been disposed to attribute to a violent concussion of the whole organ rather than to a wound or laceration of the retina.

"When the delicate structure of the retina is considered, it will not appear surprising that vision should frequently be impaired, or altogether destroyed by contusions and other injuries. In some instances there is no perceptible alteration in the appearance of the organ, except, perhaps, more or less deviation from the normal condition of the pupil, and the amaurosis is probably occasioned by concussion or rupture of the retina; while in others blood is effused, with laceration of the sclerotica, and extensive disorganization of the internal parts of the eye; often followed, after a brief interval, by severe inflammation."*

The treatment adapted to cases of this description, consists, according to Dr. Littell, "in venesection, the local abstraction of blood by leeching or cupping, and mercury," and these should be employed "subordinately to the degree of

* The author has, at this moment, under treatment in the Wills Hospital, a woman, both of whose eyes have, at different periods, been struck by a cork suddenly extricated from a porter bottle. Incomplete amaurosis, with oscillation of the iris, indicating disorganization of the hyaloid membrane, exists in each organ, and in addition to this, incipient cataract is present in one, while the lens, surrounded by its capsule and partially opaque, is dislocated in the other.

constitutional vigour, with a freedom proportionate to the intensity of the inflammatory symptoms, and the importance of the injured organ." It appears to us that this recommendation should be received with some qualification: if, as afterwards happens, a violent blow upon the globe of the eye should be followed by dimness of vision or partial amaurosis, without evidences of acute inflammation, or even with a moderate degree of subsequent congestion, caution would be required in farther diminishing the impaired nervous energy, by the abstraction of blood, or by too suddenly repressing reaction. If decided and acute symptoms should supervene, antiphlogistic measures would of course be proper; we fear, however, that the passage referred to might give a warrant to the indiscriminating practitioner for the immediate abstraction of blood, without duly considering the exact condition of the organs, when, perhaps, an opposite course would be most advisable. The too general practice of drawing blood immediately after contusions about the eye to *prevent inflammation*, is liable to the same objections, which apply so forcibly to venesection or copious topical depletion after injuries of the head, where the brain has suffered from the concussion.

The several diseases of the conjunctiva are next considered, and though the author has treated these less in detail than many other writers on ophthalmology, his descriptions are remarkably clear, and his directions for treatment appear to us judicious.

In the treatment of catarrhal and purulent ophthalmia, the author adds his testimony to the great mass already accumulated in favour of the powers of the nitrate of silver as a local application. In the more severe and dangerous affection of purulent ophthalmia, the prompt employment of the nitrate is still more necessary. Upon this point, Dr. L. remarks:—

"The fullness of the vascular system having been diminished, and the constitutional excitement allayed by these antiphlogistic measures, the nitrate of silver becomes our principal reliance; and in many instances, indeed, may be used, without previous preparation, from the very commencement of the complaint. The strength in which it is prescribed, must be regulated by the degree of the chemosis, and the profuseness of the blennorrhœa; the sensibility of the membrane being impaired by the tumefaction, little irritation follows its application, and the instant decomposition of the salt by the matter constantly oozing from the conjunctiva, obviates all danger of lesion or disorganization. In cases of comparative mildness, a solution of four, eight or ten grains should be dropped upon the eye, or applied to the conjunctiva by means of a camel-hair pencil, once or twice a day; but in higher grades of inflammation it may be safely increased to fifteen or twenty grains, care being taken to reduce its strength as the puriform discharge abates, and the membrane resumes its healthy condition. Under circumstances of still greater aggravation, the nitrate in substance may be lightly drawn along the inflamed surface of the lower lid, or, where the cellular infiltration of the conjunctiva is so considerable as to threaten disorganization of the cornea, applied, after free scarification, directly to the chemotic swelling. When the upper eyelids can be everted, their condition should be carefully inspected, and this little volume will not have been written in vain, if it serve to impress this single injunction on the mind of its readers. The inflammation commences in the palpebræ, the nerves and vessels which supply their inner surface are continuous with those of the conjunctiva, and in them the morbid alteration occurs which is the source of so much present and future mischief. Common sense, therefore, dictates the propriety of directing our applications more immediately to that quarter, and this should be done from the commencement, were it not precluded, in most cases, by the greatness of the tumefaction. Leeches to the temples are highly useful under such circumstances, and in small number may be repeatedly applied during the continuance of the active symptoms."

In the management of strumous ophthalmia our author appears to entertain the views generally held by the most experienced ophthalmologists. In addition to the use of medicines, he enforces the importance of fresh air, exercise, bathing, &c.

The prevalent methods of treating this common and obstinate disease by confinement in a dark room, continued purging, leeching, low diet, &c., with frequent irritating applications to the eye, are strongly condemned.

We heartily concur with the author in his general views in regard to this dis-

ease, but our experience would not warrant the recommendation of local depletion even to the extent he recommends. So far as we have observed, the changes of structure which attend this form of inflammation are seldom deep seated or permanent, while the inflammation of which they are the product, is of that asthenic or subacute character which does not yield to local depletion. Small alterative doses of calomel, with tonic purgatives, have in our hands been much more successful in relieving the inflammation than the abstraction of blood, or the administration of the tartrate of antimony or other depressing remedies.

Although, in times past, we have repeatedly resorted to leeches for fear of impending disorganization of the organ, we have rarely seen the least benefit to follow the operation, and oftentimes a manifest aggravation of the symptoms. At the same time we have seen children pass through long and violent attacks of this ophthalmia, with intense photophobia, continuing for weeks, and finally recover under a tonic plan, without suffering the slightest permanent injury to the organ.

The chapter on granular ophthalmia contains an excellent description of this form of disease, and embodies the results of the experience of the author and of his colleagues, at the Wills' Hospital; the author's directions for the treatment of this condition of the eye are particularly judicious.

The diseases of the cornea and sclerotica are next considered. Under the head of diseases of the choroid tunic, we find some interesting reflections on the subject of muscæ volitantes, and the following suggestion in reference to the treatment of this troublesome affection, which appears to be novel, and worthy of farther trials.

"The author having lately been informed by Dr. Samuel Jackson, of Northumberland, now of this city, that during the dilatation of the pupils by belladonna—applied on two different occasions, with the view of testing the quality of that article—the muscæ with which he was annoyed, nearly or quite disappeared; was induced to try the experiment upon his own eyes, similarly affected, and the result was a confirmation of the statement which he had received. It is hardly probable that the muscæ which are the harbingers of amaurosis, would be so much benefited by the increased quantity of light thrown into the eye; and an addition is thus made to our means of diagnosis, the more valuable, that it will enable the surgeon, with greater appearance of certainty, to dispel the fears of his patient."

Under the head of diseases of the retina, the author treats at considerable length of retinitis, amaurosis, glaucoma, photophobia, &c. In regard to the latter affection, his views are entirely adverse to its being of an inflammatory character; and he protests strongly against the too general method of treating this malady by evacuants, confinement to a dark room, &c.

Diseases of the iris are next considered, including a chapter on occlusion of the pupil, and the operation for artificial pupil. The several methods of performing this operation are described; and their advantages illustrated by cases which have occurred in the Wills' Hospital. This constitutes a very instructive portion of the work, conveying in a small compass the most important information which has been collected in reference to this delicate operation.

Under the head of diseases of crystaline and capsule, the several varieties of cataract are described, and the advantages of the different methods of operating fully discussed. We regret that our limits will not permit extracts from this section, for, although they contain nothing new, the author has presented many interesting points connected with this subject, which might perhaps be profitably discussed. He informs us that the method of operating generally practised at the Wills' Hospital, is by cutting up the lens, relying upon absorption to effect a cure, this mode being attended with less risk of subsequent inflammation than by any other method;—the results in that institution are said fully to justify this practice. The after treatment of patients subjected to this operation is perhaps as important to the successful issue of the case, as the operation itself. In our author's remarks on this head we discover no notice of a condition which follows the operation for cataract, in persons of nervous temperament, which from its frequent occurrence, and the serious results which may attend it, deserves special consideration;—we allude to the distressing nausea and vomiting which supervene within a few

hours after the operation, and is often attended with acute, lancinating pain through the eye, coming on periodically, and exciting great alarm on the part of the patient. If this condition be mistaken for inflammation, and acute antiphlogistic measures be employed to arrest it, the surgeon will be disappointed in the result, and in proportion as the violent efforts to vomit agitate the patient, will be the fear of permanent injury to the eye. The indication here appears to be to quiet the irritability of the system as speedily as possible by the administration of opium, either by the mouth or rectum, and to soothe the eye by suitable external applications. To meet the latter indication nothing has produced in our hands so prompt an impression as a poultice of fresh stramonium leaves applied to the affected organ.

The remaining portion of the work before us, is occupied with short descriptions of many of the less important diseases of the eye; thus fulfilling the design of the author, to present the reader with a full manual on ophthalmology. The whole is completed by a vocabulary containing a copious glossary of the terms employed in this branch of surgery, with a brief description of the diseases not mentioned in the text, to which is added an index which will be found convenient for reference.

We have endeavoured in this notice, to present a sketch of the contents of the work before us. It is presented under the modest title of a manual, but whilst the important diseases of the organ are discussed with a brevity becoming the general design of the work, they are yet described with a clearness and ease of diction, which render its pages both attractive and instructive. We can, therefore, recommend the volume of Dr. Littell both to practitioners and students, as not only a complete and well-written manual on diseases of the eye, but as containing in a small compass much valuable practical information derived from the author's frequent observation and experience. I. P.

Art. XXVI.—*Physical Education and the Preservation of Health.* By John C. Warren, M. D., Professor of Anatomy and Surgery in Harvard University: pp. 90. Boston, Wm. D. Ticknor & Company: 1846.

Lecture on the Necessity of the Study of Physiology. Delivered before the American Institute of Instruction at Hartford, August 22d, 1845. By Edward Jarvis, M. D., of Dorchester, Mass.: pp. 55. Boston, Wm. D. Ticknor & Company: 1845.

Believing that one of the most important missions of a true and enlightened physician, is to point out to mankind the way to avoid the causes which engender disease, and to show them the necessity of giving heed to the warnings of mischief going on within themselves, ere complete derangement takes place, and to endeavour to convince them that the various parts and organs of their wonderfully contrived body are governed by fixed laws, which cannot be departed from without sooner or later causing suffering and disease, we hail with pleasure every effort to lay before the public, plain, sound and practical information on the subject of Physiology. Such are the effect and aim of the above lectures, which emanate from the minds of men of large practical experience and of ability to set forth in simple language the valuable truths they have sought to illustrate. Dr. Warren has endeavoured "to point out some of the principal ways in which literary pursuits may be destructive to health, and also to show what measures may be adopted to prevent these pernicious consequences." He begins with some remarks upon the nature of the affections, as curvatures and distortions, which may be caused, especially among young females, by carelessness and mistake in the mode of conducting education; and having passed in review and illustrated the causes, both physical and mental, to which they are due, he carefully considers the means of improving the physical education, and thus of preventing or remedying these sad deformities. In an appendix to the lecture, are contained some useful practical remarks on digestion, exercise, mode of sleeping, the external use of cold water, frictions, and against the use of tobacco; all of which will be found instructive, and will well repay perusal.

Dr. Jarvis' lecture enters upon a different field of discussion, and is more admirably adapted to the purpose for which it was delivered than any other publication we have ever met with. Commencing with the question—what are the objects of a common school education?—he says that a man should learn to read and write, and should be instructed in the elements of geography, arithmetic and grammar, and that for obvious reasons, it is the duty of parents to give such instruction to their children. "But in all this there is one thing wanting, one study of primary interest omitted—the man has neglected to prepare himself to meet one responsibility, that, for every child of earth, comes first in the course of human life. * * * He must necessarily breathe, eat and exercise, and carry on all of the functions of the living body," and all these things must be attended to by himself, whatever else his occupation. Hence Dr. Jarvis gives "a high and front rank to the study of the laws of Physical life," to which he calls attention in the lecture before us, though for the want of necessary space he is obliged to "confine himself to the subjects of the digestive system and digestion, the lungs and respiration, the skin and its functions, the locomotive system, the brain and nervous system, their method of operations, and their connections with, and dependence upon external nature, their dependence upon our volition and our duties concerning them. It is also my (Dr. J.'s) purpose to show the beautiful and happy consequences of health, and vigour, and protracted life, that follow the faithful obedience to these laws; and, on the other hand, the melancholy consequences of pain and weakness, of sickness and premature death, that follow from our neglect and disregard of them."

The question of what advantage to mankind is the study of physiology, is admirably, and yet briefly answered, by a cursory view of the organs and functions above-mentioned, and of their relations to each other, and to external nature. He shows that "a generous and provident Creator has bestowed upon man all the organs and vital machinery necessary for carrying on the operations of life. But he has left it to man to set and to keep some of these in motion." That we are hence co-operators with the Creator in carrying on these functions, with the certainty that "what God has done for us is well done. So far, nothing is deficient, and nothing is redundant." And as we have placed in our hands the means and power to do what he has required of us, we are responsible for the proper use of them. Hence our first duty should be "to learn what has been done, and what is left for us to do; to know the nature, powers, and wants of our bodily organs; the purposes to which they can best be applied, and their capacity of endurance. We should also ascertain the nature and fitness of the material upon which they are to operate. Without this knowledge, we may err and stumble * * we may create weakness instead of strength, and disease instead of health."

We have thus presented the argument of Dr. Jarvis, chiefly in his own appropriate and expressive language—an argument, most happily illustrated and enforced in the remaining portions of the lecture, which is occupied with an admirable, plain, common sense view of the different functions of which we have above spoken. Indeed we know not how sufficiently to praise the work before us; for while there is little novel to the well-instructed physician in its pages, there are exhibited throughout such a thorough acquaintance with the subject, such a conviction of its importance, and of his duty in enforcing that belief on the minds of all, and withal, such a judicious selection of the most practical points, and good sense in their discussion and manner of presentation, that we look upon it as the most valuable contribution to popular medical literature; (and here let us say, that we consider this the only department of medicine which can ever with propriety or advantage be taught to "the people,") which has fallen within our reach. As one of our cotemporaries has justly said, "a copy of it ought to be placed, at the public expense, in every family in the Union." C. R. K.

Art. XXVII.—*Phrenology examined.* By P. Flourens, member of the French Academy, &c. &c. Translated from the second edition of 1845, by Charles De Lucena Meigs, M. D., Memb. Amer. Philo. Soc., etc. etc. Philadelphia, Hogan & Thompson, 1846: 18mo. pp. 144.

The admirable experimental work of M. Flourens upon the properties and functions of the nervous system, is, in itself, an exposition of many of the errors both of fact and doctrine upon which the phrenologists have based their system. In the present publication, which is a summary argument, his aim is to show that Gall's physiology is, to a great extent, disproved by direct experiment, to refute his psychological doctrines by bringing to bear upon them the test of consciousness, and to point out the fact that the phrenologists have never yet shown anatomically, what is a cerebral organ, which they ought to be able to demonstrate in order to prove the truth of their assumption, of special faculties operating through special organs. "Gall," says he, "did what so many others have done. He commenced with imagining an hypothesis, and then he imagined an anatomy to suit his hypothesis."—p. 74. He then shows that Gall and Spurzheim were constantly at variance on essential points, and that Broussais was "busier with his own opinions than with what Gall thought."

The argument is one of considerable force, and has been well rendered into English by the accomplished translator. Dr. Meigs places a very high estimate upon the work, and commends it to attention in his dedicatory letter to Dr. Jackson, of Boston, as striking "a pulverizing blow" upon the doctrines of phrenology —doctrines which are liable to impart, or are founded upon, he says, "manifestly erroneous conceptions of free-will, of the conscience, of the judgment and the perceptive powers," and which are therefore likely to mislead men in the most responsible situations in which they can be placed, such as those of judge, juror or legislator. C. R. K.

Art. XXVIII.—*Clinical Lectures on Surgery. Delivered at St. George's Hospital.* By Sir B. C. Brodie, Bart., V. P. R. S., &c. Philadelphia, Lea & Blanchard, 1846: 8vo. pp. 352.

These lectures comprise, among other subjects, mortification, diseases of the veins, polypi, fistula, tumours of the breast, local nervous affections, diseases of the hip-joint and rectum, and encysted tumours; most of them have been read by us as they appeared in the Library Department of the Medical News, and always with pleasure and profit. The soundness of doctrine inculcated, the caution recommended in operative procedures, the condemnation of rash operative means, their truthfulness, style, and strictly practical character, all serve to render them a valuable addition to our surgical literature. G. W. H.

Art. XXIX.—*General Therapeutics and Materia Medica.* With 120 illustrations. Adapted for a medical text book. By Robley Dunglison, M.D., Prof. Inst. of Med. in Jeff. Med. College, &c. &c. Third edition, revised and improved. In 2 vols., pp. 504 and 482. Philadelphia, Lea and Blanchard, 1846.

The previous editions of this work have been so fully noticed in this Journal, (Nos. for Aug., 1837, and April, 1843,) that it will be sufficient now to repeat what is said in the preface, "that in preparing the present edition, the author has subjected the General Therapeutics and Materia Medica to a thorough revision; and has endeavoured so to modify the work as to make it a more exact and complete exponent of the existing state of knowledge on these important subjects."

ART. XXX.—*A Compendium of Lectures on the Theory and Practice of Medicine, delivered by* Prof. CHAPMAN, *in the University of Pennsylvania.* Prepared with permission, from Dr. Chapman's manuscripts, and published with his approbation. By N. D. BENEDICT, M. D., F. C. P. P., Phys. to the Lying-in department of the Philadelphia Hospital. Philadelphia, Lea & Blanchard, 1846: pp. 258.

THIS syllabus of the lectures of the distinguished Professor of the Practice of Medicine in the University of Pennsylvania, will be very useful to students attending his course. It is got up altogether in a very different style from that in which similar compends are usually issued, being put forth in all the luxury of large type, fine paper, and very open spacing, so delightful to the lover of beautiful books, and grateful to aged optics.

ART. XXXI.—*Outlines of the Nerves, with short Descriptions. Designed for the use of Medical Students.* By JOHN NEILL, M. D., Demonstrator of Anatomy in the University of Pennsylvania, Physician to Wills' Hospital, &c. Philadelphia, Ed. Barrington & Geo. D. Haswell, 1845. 8vo. pp. 30. Plate ix.

THE object and plan of this volume is similar to the one on the Arteries noticed in our number for Oct. last, p. 425. It deserves all the commendation we bestowed on its predecessor, and will prove a most useful aid to the student commencing the study of the nerves.

ART. XXXII.—*Manual of the Diseases of the Skin.*—From the French of MM. CAZENAVE and SCHEDEL, with notes and additions by THOMAS H. BURGESS, M. D., Surgeon to the Blenheim Street Dispensary for Diseases of the Skin, etc. Revised and corrected, with additional notes, by H. D. BULKLEY, M. D., Lecturer on Diseases of the Skin, Fellow of the College of Physicians and Surgeons, New York, etc. New York, J. & H. Langley, 1846. 12mo. pp. 341.

WE had the pleasure of calling the attention of the profession to this work in a notice of the first edition published in Paris in 1828, (see No. for Nov., 1828, p. 162). The present is a translation from the third edition, and is one of the best manuals of the diseases of the skin we possess. It embodies "the results of the long experience and accurate observations of M. Biett, so favourably known for his zeal and industry in the pursuit of this branch of our profession," and being "drawn up by pupils of this able teacher, who enjoyed the advantages of the same extensive field in which he himself studied, it may be safely recommended to both practitioners and students, as combining faithful and graphic descriptions of these diseases, and sound principles for their treatment."

SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *Sudoriparous Glands of the Axilla.*—M. Ch. Rolin made a communication to the French Academy of Sciences, respecting these organs. Two orders of glands have been described in the skin—first, sudoriparous glands, situated below the dermis, consisting of a tube rolled in a mass, which subsequently traverses the dermis and the epidermis, describing spirals, and opens externally by a very minute orifice appreciable by the naked eye in the concentric lines of the epidermis of the extremities of the anterior surface of the fingers. 2. The sebaceous glands or glands of the follicles of the hair, situated in pairs at the sides of each follicle, and opening into it by a short canal.

According to M. Rolin, there exist glands of a third kind which have not been hitherto mentioned. They occur in the hollow of the axilla, and in the fold of the groin, where they are less numerous. They lie in the adipose tissue which lines the deep surface of the dermis, and consist of a simple tube terminating in a cul-de-sac rolled on itself, so as to form a little lobule a millimetre in diameter. Those glands are sometimes united in groups of two or three, easily distinguished by the naked eye; when the adipose tissue of the axilla is removed, they appear then like granulations of a reddish colour.

Though analogous in structure to the sudoriparous glands, they differ from them, first in their size, and also in the nature of their secretion.

[These glands are, in all probability, the same as those described by Prof. Horner in our last number, p. 13, et seq., and which the Prof. is now disposed to believe are identical with the Miliary glands of Winslow Fyfe, Wistar, &c. These axillary glands are described and beautifully figured by Todd and Bowman in the second part of their Physiological Anatomy.]

2. *Cynosis.*—Mr. W. T. Iliff, in a paper on this affection, (*Lond. Med. Gaz.*, Dec. 5, 1845,) offers some remarks which we shall transfer to our pages, as they support the views we have so frequently maintained respecting the pathology of this disease.

"The most contradictory statements are recorded," Mr. Iliff observes, "with reference to the usual condition of the fossa ovalis. Thus Portal comes to the conclusion that the foramen ovale as frequently remains open as it becomes closed; and Dr. Farre says, 'an aperture of communication through the auricular septum is actually so often met with in subjects brought into the dissecting rooms attached to the anatomical schools, that the observation of the student who has not witnessed it even in the adult, must have been exceedingly limited.' (*Essay on Malformations of the Heart*, p. 8.) On the other hand, out of 450 cases examined at La Charité, Louis only found two instances. Unable to reconcile these opposite results, I carefully examined the hospital records of necropsies, and out of 619 cases in which there was decided evidence of the heart having been opened and its cavities examined, (rejecting above 600, in which the heart was merely said to be healthy,) I found in 23 only, or 1-27th, was there evidence of this imperfection: in 12 it was valvular, in 11 not so. To completely satisfy

myself, I determined to examine personally the condition of the fossa ovalis, and the result of 40 cases taken promiscuously, (using a small probe so as to detect the slightest imperfection,) was as follows: in 3 was a *very small* valvular opening in the auricular septum, in 2 a small valvular opening, and in 1 a deficiency in the membrane closing up the foramen in three places, all more or less valvular, the largest one-sixth of an inch long, oblique, in all 6-40ths, *one* only very obvious.

"Before dismissing the subject, I would remark that the foramen ovale may be open to a very great extent, and yet there be no cyanosis, a few cases of which I will adduce. Case I is copied from my father's note book: it was that of a married lady, not particularly unhealthy, who after becoming pregnant suffered from cough and dyspnœa, which it was hoped depended on her pregnancy: shortly, however, before confinement, her breathing became more difficult, and general symptoms of anasarca with coagulable urine evinced themselves. For a few days after delivery she appeared to be going on well, but soon faltered in power, the anasarca increased, and she sank in about a fortnight, although her labour and its results were quite favourable as regards hemorrhage, the separation of the placenta, &c.

"On examining the heart, which is in the museum at Guy's, the following appearances presented themselves, as described by Mr. T. W. King. The heart was generally enlarged, dilated, and hypertrophied; the right ventricle being most affected. Pulmonary artery disproportionately large. The foramen ovale formed a circular aperture full three inches in circumference, and altogether devoid of valvular membrane; or rather a few reticular cords at the posterior inferior part were all the remains of the valve. The circumference of the foramen thick and partly muscular. Much more considerable vestiges of a large Eustachian valve existed, consisting of filaments and membrane. The tricuspid opening wide, and its curtains extensive. The bicuspid valve strong; aorta rather small; and the ductus arteriosus was a cord. Upon inquiring of this lady's family whether or not she had manifested discoloration, all that could be learnt was, that when at school she used to be scolded occasionally from a supposition that she had been sucking ink, but whether this was the case could not be ascertained.

"Case II came under my notice in Guy's Hospital. This woman was never suspected during life to have any imperfection of either septum, nor was there marked livor. Yet on post-mortem examination, the right side of the heart was enormously enlarged, the fossa ovalis equal in size to a crown piece; the valve open, so as to admit the thumb, and the expanded membrane largely perforated and reticulated. Pulmonary artery very large; aorta rather small.

"Case III, related by M. Fouquier, is that of a man who arrived at the age of 43 without any cyania, yet on examination after death, the foramen ovale was found smooth and rounded, and open so as to admit the extremities of three fingers; the right auricle enormously dilated, though not to the same extent. (*Dictionnaire de Médecine*, Art. Cyanose.)

"Case IV is interesting, inasmuch as the ventricular septum was imperfect, yet the patient (a female) enjoyed good health until 18 years old, but died at the age of 20, from orthopnœa, with lividity and physical debility. The preparation is in Guy's Museum."

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3. *Experiments on the Absorption and Reproduction of the Heads of Bones.*—M. Flourens read to the French Academy of Sciences a note on the above subject. The fact which he attempts to explain is the increase of distance between the extremities of bones during the longitudinal growth of their shafts.

If we admit the ordinary theory of the growth of bones by *extension*, nothing is easier than the explanation of the fact in question. The two extremities of the bones become separated, because the body, the intermediate portion of the bone, is extended; but the extension theory is a groundless hypothesis. Bones do not grow because they are extended. They increase in thickness by *superimposed layers*, they increase in length by *juxtaposed layers*.

How is it, then, that during the elongation of bones by juxtaposed layers the heads of bones are absorbed and reformed, and always become more distant from each so long as the elongation of the bone goes on. That the fact is so is ascertained: M. Flourens has already proved the absorption, the reformation, the suc-

cessive reproduction of the heads of bones, by experiments with madder; he also ascertained the mode of growth of bones during their elongation by inserting small nails in the bone; the bone grew in length, but the interval between the nails remained unchanged: hence the increase in length occurred beyond the nails. M. Flourens adopted the same method in studying the *displacement*, the *separation*, or better, the *changes* that occur in the heads of bones during their successive absorptions and reproductions, and he now laid before the Academy preparations of the bones experimented on.

The tibia of a young rabbit was first exhibited, in which three nails had been inserted,—one below three millimetres from the inferior epiphysis; a second above four millimetres from the superior epiphysis; the third at the level of the spine of the tibia. The experiment lasted twenty-two days. The bone, which, when the experiment commenced, was six centimetres long, had increased three millimetres when the experiment terminated. The entire increase of length had taken place beyond the nails. The nail which had been placed on a level with the spine of the tibia was now three millimetres distant from it, and as this nail had not changed its relative position to the two other nails, it was the spine of the tibia which had changed its place and been elongated from it.

In a second experiment which lasted forty-six days, the nail which had been placed on a level with the spine of the tibia was at the termination of the experiment thirteen millimetres distant from it.

Finally, in a third experiment, continued for seventy days, the nail was seventeen millimetres from the spine of the tibia.

The spine—that is to say, the head of the tibia, becomes displaced more and more distant, the longer the experiment is continued; or, to speak more accurately, it is incessantly undergoing change. It is not one and the same head which is displaced, but several different heads which are formed in succession to be absorbed and then reproduced. There is then a complete mutation of bone during the entire period of its increase in length. The organ which produces the bone is the periosteum, and by it also it is absorbed.

The periosteum, which is nothing but the *external medullary membrane*, just as the medullary membrane is simply the *internal periosteum*, enjoys, like the latter, the power of absorbing and depositing bone.—*Dublin Med. Press*, Dec. 31, 1845.

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4. *Development of Capillaries.*—Platner* has added confirmation to the account given by Prevost and Lebert,† of the mode in which capillary vessels are developed in new structures. These vessels never originate independently of the general circulation, but are invariably formed by offshoots from previously existing vessels, which offshoots arch and unite with each other so as to form common continuous tubes. This mode of development may be observed best in the tails of young tritons, in some of which may be seen numerous blind sac-like extremities of capillaries; in others long narrow processes may be noticed arising from these sac-like extremities, and insensibly disappearing from view; whilst in others again many of these processes may be found united to each other, forming a network of continuous arches. These arches, or capillary loops, are at first very narrow, and apparently impermeable to blood corpuscles, their interior being occupied and blocked up by a finely granular material: soon, however, they increase in diameter, and the double contour of a distinct wall becomes perceptible, especially at the points where the narrow tubes are connected with the main capillary trunks. The nuclei which are observed on the walls of fully-developed capillaries Platner conceives to be structures of later formation, and not to be the nuclei of cells which have preceded the development of the capillaries, and from the fusing together of the walls of which Schwann considered the capillary vessels to be formed. Platner also adds doubts whether the nucleus fibres of fibro-cellular tissue and of muscle described by Henle, consist of nuclei which have belonged

* Schmidt's Jahrbucher, No. 6, 1845. Platner's original paper is given in Muller's Archiv., Heft 5, 1844.

† Annal des Sciences Nat., Avril, 1844. Also notice of same in Paget's Report, British and Foreign Med. Review, April, 1845, p. 588.

to previously existing cells, or are structures of after formation.—KIRKE'S *Report* in *Ranking's Half Yearly Abstract*, Vol. II.

5. *Minute Anatomy of the Kidneys.*—Some opposition having been offered by Reichert,* Ruschke, and others, to the full reception of the statements made by Mr. Bowman, in his excellent account of the minute structure of the kidney,† Dr. GERLACH‡ was led to institute some further investigations, and the results he obtained confirm in most particulars the description given by Mr. Bowman. One of the essential peculiarities noticed by Mr. Bowman in the structure of the kidney was the immediate connection existing between the Malpighian tufts of vessels (or bodies) and the uriniferous tubules in the kidneys, both of man and of all animals, so far as he had examined them; an arrangement which had been frequently before supposed, but never actually proved to exist. Upon the publication of Mr. Bowman's account, Reichert, and some others, made several attempts to discern this connection, but were unsuccessful, and they accordingly offered statements which were opposed to the description given by Bowman. Upon repeating Reichert's method of examination, which consisted in making extremely fine sections of the substance of the kidney, and carefully examining them beneath the microscope, also in isolating the several Malpighian bodies as much as possible, Gerlach came to the same conclusion which Reichert had arrived at, and was inclined to deny the existence of a direct continuity between the Malpighian bodies and the uriniferous tubules; and it was not until he had resorted to repeated and careful injections of the kidney through the urinary tubes that he succeeded in clearly determining that such an arrangement does in reality exist. After many attempts, he seems to have succeeded in injecting the urinary tubules more completely than has been yet done, and has contrived to make some of his injection fluid pass into and distend the capsules within which the Malpighian tufts are inclosed; a result which Bowman considered to be almost impracticable, owing to the length and tortuosity of the tubules, the delicate nature of their walls, and to there being no vent by which the secreted fluid already contained within the tubules could pass out, and so make way for the injection to enter. For the purpose of injecting the tubules, Dr. Gerlach recommends the employment of sheep's kidneys, for in these animals the tubules are tolerably wide: it is quite essential to success that the kidneys be perfectly fresh. The following may be stated as the chief results which Gerlach obtained from his investigations: 1. The fact of the direct continuity of the Malpighian capsules with the uriniferous tubules, as discovered by Bowman, was clearly confirmed, but it would seem that Bowman's account, which describes the tubules as terminating in these capsules as by so many blind pouches, is not quite correct: the capsules are merely offshoots, or sac-like dilatations from the sides of each tubule with the cavity of which they communicate by a slightly narrowed neck, and are not placed at the terminal extremities of the tubules. Gerlach states that a tubule, having given rise to a pouch, continues its way onwards, forming fresh pouches here and there, and eventually terminates, not in a blind extremity, but by forming a loop: and these loops which the various tubules form have, doubtless, been mistaken for so many blind extremities. 2. These pouch-like dilatations (which are the capsules of the Malpighian tufts first described by Müller), are composed of the same structureless membrane as the uriniferous tubes into which they directly open. Bowman's description of the Malpighian tufts contained within the capsule is, on the whole, confirmed; the single efferent and afferent vessels belonging to the tuft perforate the capsule close to each other as described by him, although the point at which they enter does not seem in all cases to be directly opposite that at which the capsule communicates with the uriniferous tubule.§ 3. A curious circumstance

* Report on the Progress of Microscopic Anatomy in Muller's Archiv. for 1843, p. 221.

† Philosoph. Transactions, 1842. ‡ Muller's Archiv., Heft 4, 1845.

§ In searching for this continuity between the capsules and tubes beneath the microscope, Dr. Gerlach mentions a caution that the object should not be covered by glass, otherwise the globular form of the capsule is altered, and the detection of the continuity becomes almost impossible.

remarked by Bowman was that each Malpighian tuft lies quite free within the cavity formed by the capsule, uncovered even by a layer of epithelium: this being the only known instance of a blood-vessel lying bare on a secreting surface, naturally attracted much attention, and was discredited by Reichert and others. Bowman inferred from such an arrangement that the watery and soluble parts of the urine are distilled from the blood of the vessels composing the tufts, whilst the essential elements of the urinary secretion are eliminated by the cells lining the internal surface of the tubuli uriniferi. Gerlach states that he examined this point, and found upon removing the capsule that the Malpighian tuft was completely covered by a thick layer of nucleated cells. This layer he states to be continued from the one which lines the entire internal surface of the capsule, and which is reflected from this surface on to the Malpighian body, just as the peritoneal coat lining the internal surface of the abdominal cavity is reflected on to the intestines; in both cases a space exists just at the point of reflection which is uncovered by epithelium. The vessels composing the Malpighian tuft therefore are in immediate contact with, or imbedded in a thick layer of nucleated cells, which doubtless are actively engaged in carrying on the process of urinary secretion. 4. Bowman described the existence in frogs of a layer of ciliary epithelium lining the entrance of the tubules into the Malpighian capsules, but was not able to trace it far into the interior of the capsule. Neither Ruschke nor Reichert was able to detect this ciliary movement, but it was observed both by Bischoff* and by Valentin;† the latter noticed it, not merely at the part mentioned by Bowman as the seat of its occurrence, but also within the capsule itself; in this he was confirmed by Pappenheim. On this point Gerlach observes that in the kidneys of mammalia he has never been able to detect this ciliary movement at any part of the tubule or capsule, although he has made numerous attempts and examined kidneys in a perfectly fresh state; whereas, in the fresh kidneys of frogs, he has frequently noticed it both at the entrance of the tubule into the capsule, and over the entire internal surface of the capsule itself, thus confirming Valentin's statement. He considers it probable that this movement exists also in the kidneys of the higher orders of animals as well as in the frog, but that from the fineness of the cilia it has yet escaped observation.—*Ibid.*

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6. *Taste. Papillary Structure of Tongue.*—An excellent and, in many respects, original account of the papillary structure of the tongue is contained in the second part of Todd and Bowman's Physiological Anatomy of Man, (p. 435, *et seq.*) There are three varieties of papillæ visible on the dorsal aspect of the tongue, namely, "the *circumvallate*, or *calyciform*, eight or ten in number, situated in a V-shaped line at the base of the organ: the *fungiform*, scattered over the surface, especially in front of the circumvallate, and about the sides and apex; and the *conical*, or *filiform*, much the most numerous, studding most of the surface, though most largely developed in the central part;"—these three varieties, although they have hitherto been regarded as simple papillæ, are in reality compound organs, being clothed with a number of secondary, simple, and much more minute papillæ; which, from being covered over by the epithelial investment, and not visible until this covering is removed, have hitherto escaped notice. These simple papillæ, besides being set upon the compound ones, are also found scattered over the whole surface of the tongue, lying among the compound ones; and they likewise occupy a large portion of the smooth mucous surface immediately in front of the epiglottis, at which part their structure may be best examined, because they are there unaccompanied by the large compound papillæ. When examined at this part, each simple papilla is found to consist of an envelop of basement or structureless membrane, enclosing an obscurely granular matter, within which one or two minute capillary loops of blood-vessels are imbedded; the basement membrane of each papilla is invested externally by a delicate layer of scaly epithelium, which being covered again by the general epithelium, renders the several papillæ invisible, until the entire epithelial investment is removed. The authors have not been able to trace any nerve tubules into the papillæ at this part, although probably they exist there, but deprived of their white substance. The secondary papillæ, over

* Muller's Archiv., 1843, p. 132. † Valentin's Repert., bd. 8, p. 92.

the *circumvallate* and *fungiform* varieties of the compound papillæ, have a structure in all respects similar to that of those just described; but when situated over the *filiform* papillæ, they present some distinctive peculiarities, being larger and more pointed, also possessing considerable stiffness and elasticity; the latter quality depends on a quantity of yellow fibrous tissue which they contain, and which, with a wavy, almost spiral character, runs in a general longitudinal direction up the papilla. Nerve-fibres are commonly found within this variety of the secondary papillæ, especially when examined near the apex of the tongue. Occasionally the authors have noticed these nerve-tubules to terminate in loops,—probably they all do so. Besides these peculiarities in their secondary papillæ, the *conical* or *filiform* variety of the compound papillæ are distinguished by the peculiar form which their name expresses; also by "their whitish tint, derived from the thickness and density of their epithelium. This epithelium, indeed, frequently composes two-thirds of their length, being sent off from the sides and summits of their secondary papillæ in long pointed processes, which are immersed in the mucus of the mouth, and may be moved in any direction, although they are generally inclined backwards. These epithelial processes are more stiff according as the particles of which they consist approach more nearly to the dense texture of hair; and a few among them actually enclose minute hairs, pointed at the end, and provided in some cases with an extremely fine central canal. One of the largest found was one-tenth of an inch long, and from 1-2000th to 1-3000th of an inch thick." Others of the processes have a more or less imbricated arrangement of the epithelial particles, in all of which the imbricated particles tend to coalescence towards the point. Many of the processes may be regarded as soft or uncondensed hairs, and preserve the same thickness for a considerable length.* From the structural peculiarities of these filiform compound papillæ, the thickness of their epithelial covering, the stiff brush-like character of their filamentary productions, together with their greater development in the middle part of the dorsum of the tongue, which part is chiefly employed in the movements of mastication, and least endowed with the function of taste, the authors infer the subservience of these papillæ to the purposes of mastication rather than to the function of taste; whilst the simple papillæ at the base of the tongue, and those covering the circumvallate and fungiform papillæ, being invested by a comparatively thin layer of epithelium, which would readily permit a speedy transudation of sapid substances dissolved in the mucus of the mouth, are doubtless the organs concerned in the sensation of taste, a supposition which receives confirmation from the fact of this kind of simple papillæ being most prevalent in those parts where the sense of taste is most acute, namely, the base, sides, and apex of the tongue.—*Ibid.*

7. *Function of Taste.*—Some precise and interesting conclusions respecting the seat of, and the nerves concerned in, the function of taste, are given by Todd and Bowman, in the same chapter from which the above account of the papillary structure of the tongue has been taken. It seems most probable that the entire dorsal surface of the tongue possesses the property of taste; but especially the circumferential parts, namely, the base, sides, and apex; whilst the central part of the dorsum, in which the sense of taste is feeble, is especially adapted, by the denseness and roughness of its epithelium, (very marked in some animals,) to aid in the comminution and dispersion of the food. The soft palate and its arches, with the surface of the tonsils, also appear to be endowed with taste in various degrees in different individuals; not so the pharynx, gums, or other parts. The above conclusions are warranted by the results both of disease and of careful experiments; and a further consideration of them shows, that since the base of the tongue, which is supplied solely by the glosso-pharyngeal nerve, and the anterior part, which is supplied solely by the lingual branch of the fifth pair, are both endowed with the sense of taste, both these nerves must contribute to the production of this sense; probably a share ought also to be attributed to the palatal branches of the fifth. The tongue is also an exquisite organ of touch, especially

* The character of these hair-like epithelial processes will be best understood by referring to the admirable illustrations of them given in Todd and Bowman's book: the copious illustrations throughout the work are all most excellent.

the sides and tip of its anterior portion. The question, therefore, arises whether the senses of touch and taste reside in the same papillæ, or in distinct ones, which, since so far as we now know, there is no anatomical distinction between nerve tubules of different endowments, it is impossible to decide; there seems no difficulty, however, in conceiving that a single papilla may receive nerve fibres of different endowments, and thus, in the case of the tongue, one and the same papilla may be subservient to the functions both of touch and of taste.

Several interesting cases have been recorded, which prove that the fifth pair of nerves is concerned in the sensation of taste; one by Todd and Bowman, (p. 444,) in which a middle-aged man suffered for eight years from complete loss of sensation in all parts supplied by the fifth nerve on the left side, with the exception of the forehead. The left eye was lost by destructive inflammation; the tongue was quite without feeling on the left side. His sense of taste was found perfectly absent in the anterior and middle part of the affected side; but not impaired behind, in the region supplied by the glosso-pharyngeal nerve. On the opposite side of the tongue his taste was quite acute in front. Two other cases of paralysis of the fifth pair are related by Mr. James Dixon.* In both, common sensation and the function of taste were unimpaired on the sound side of the tongue; but were both entirely lost on the anterior part of the affected side, whilst posteriorly, where the tongue is supplied by the glosso-pharyngeal, its functions were unimpaired.—*Ibid.*

8. *Effects of Alcohol on the exhalation of Carbonic Acid from the Lungs.*—Dr. Vierdont, in his researches on respiration, finds that immediately after drinking any spirituous liquor, the amount of carbonic acid exhaled becomes sensibly diminished, and that this diminution lasts for about two hours.—*Gaz. Méd*, Oct. 4.

If this be correct, the retention of carbonic acid in the system may explain some of the distressing effects resulting from the use of ardent spirits.

ORGANIC CHEMISTRY.

9. *On the detection of Pus in the Blood and other Animal Fluids.* By J. F. Heller.—It has hitherto been a matter of considerable difficulty to recognize the existence of pus in the blood; indeed it is still doubted by many whether pus cells do really circulate as such in the blood. Probably this difficulty will account for the discrepant accounts given by writers on the subject, some of whom state that the existence of pus in the blood is indicated by the peculiar aspect and qualities of this fluid, others by its microscopic characters, without, however, the pus cells being actually seen. The quantity of pus in the blood must be enormous; when in a single drop of this fluid, taken from the 20 to 30 pounds existing in the body, we are enabled to detect its existence beneath the microscope. Therefore from such a mode of examination, no certain results can be expected, and no conclusions, *pro* or *con*, can be drawn.

Two cases having occurred to Heller, in which the blood contained a very large quantity of pus, he took advantage of the opportunity, and performed a number of experiments in reference to the detection of pus, and obtained from them some decided results.

He found that if there is only a small quantity of pus contained in the blood, this fluid presents few or even not any peculiarities which can be ascribed to the presence of pus. The more pus there is in the blood, by so much the more is the quantity of fibrin diminished; indeed, if the quantity of pus be very large, the fibrin disappears entirely, so that not a trace of it can be found in blood drawn from a vein by venesection. In such a case there are observed, after death, unusually large deposits of fibrin in the great vessels and in the cavities of the heart. He noticed that when blood containing pus is entirely deprived of fibrin, the blood corpuscles subside sooner than the pus cells, so that these latter form above the

* Med. Gaz., July 18; abstract of paper read to the Medico-Chirurg. Society, June 24.

blood corpuscles a dirty-white flaky layer. When the quantity of pus in blood drawn from a vein has been large, he has observed the layer of pus cells which has formed above the sediment of blood corpuscles, to be sometimes as much as a line in thickness. Upon examining a portion of such a layer beneath the microscope, there could be no doubt about the presence of pus. When there has been sufficient fibrin remaining to form a clot, he always observed the pus in the uppermost layers of it; but if no real clot formed, then, as above stated, the pus was found in the uppermost layers of the sediment of the blood corpuscles. From these experiments, and from others which he performed by mixing very small portions of pus with large quantities of blood corpuscles, Heller came to the conclusion that the smallest quantity of pus may be detected even in a large quantity of blood. The detection of pus in the blood depends, 1st, on the perfect separation of the pus also from the blood, by mechanical means; 2d, on the microscopic examination of the separated pus cells. All chemical reagents which can be employed for the detection of pus lead to no decided result. The mechanical separation of pus cells from the blood may be detected, by means of distilled water, in the following manner:—The suspected portion of blood is first allowed to coagulate, then the scum is to be removed, and the uppermost layer of the clot to be sliced off with a knife, mixed with distilled water, and then strained through a linen cloth in order to separate the fibrin: to the strained fluid distilled water is to be added, until all the blood corpuscles are dissolved. The whole fluid is then to be left at rest for one more hour in a tall narrow glass cylinder, at the lapse of which time we find a sediment formed, which, (provided all the red corpuscles have been dissolved,) consists of pus cells with chyle corpuscles, (or pale corpuscles of the blood.) The supernatant fluid is now to be drawn off, and the remaining sediment to be washed with distilled water, and then poured into a still narrower glass cylinder, or still better, into a small test-tube, the calibre of which is about one-third of an inch in diameter; this is left at rest until the pus cells have again subsided, and the supernatant water appears quite clear; this clear fluid is then to be poured off, and a drop of the sediment placed beneath the microscope, when the pus cells will distinctly be seen, especially after the addition of acetic acid, whereby their nuclei are rendered more apparent. It is impossible to confound these cells with chyle corpuscles, which never possess nuclei, and are always much smaller than pus cells, which latter Heller states he has constantly found in the blood, of considerable size, and great distinctness.

By the above process, Heller states that from a pound of blood pus may be collected to the amount of several drops, and that we may constantly in this way detect with perfect certainty the existence of pus in the blood, or determine its complete absence. If no pus cells are found in the upper strata of the clot, we may experiment with the whole clot in the way above mentioned, namely, by gradually dissolving successive portions of it in water, and then straining through a coarse linen cloth to separate the fibrin. Also, when we have the opportunity, as after venesection, we may free the blood from fibrin by stirring, allow the blood-corpuscles to subside, then gradually add water to the sediment of blood-corpuscles, and continue the process as above directed. Heller states his impression to be, that the presence of pus in the blood cannot be determined in any other way with greater certainty than by the above process, even although it exist in a tolerably large quantity. He promises hereafter to speak of the influence which the presence of pus in the blood exerts on the fibrin, contenting himself at present with observing, that the detection of pus in the blood, which he has been able with certainty to determine, proves unquestionably that pus cells may circulate as such in the blood.

In order to detect pus in urinary sediment, in sputa, and in other animal fluids, the best way is to procure a careful mechanical separation of the pus cells, to collect them into as small a space as possible, and then to examine them beneath the microscope. Thus, for instance, in a case of suspected pus in the urine, the tenacious slimy sediment is to be agitated in distilled water, and the fluid then allowed to remain at rest in a tall narrow glass-cylinder, in order that the pus cells may subside, after which the supernatant fluid is to be drawn off, and a small portion of the sediment examined beneath the microscope. It must be remembered that the water in which the sediment has been washed, as well as the urine itself,

or other fluid in which pus is contained, may be albuminous, although perhaps only a trace of albumen may be found; and the greater the quantity of pus present, so much larger will be the amount of albumen: albumen is an ingredient of the liquor puris as well as of the contents of the pus cells.—*London Med. Gaz.*, from *Heller's Archiv. für Chemie und Microscopie, Heft* 4, 1845.

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10. *Chemical and Microscopical examination of several kinds of Sputa.* By Scherer. *Sputa of Pneumonia.*—Upon mixing portions of pneumonic sputa with water, and filtering the mixture, there was obtained a clear transparent fluid, which became turbid upon boiling; upon the addition of a drop of acetic acid this turbidity became converted into a flocculent precipitate which an excess of the same acid did not completely dissolve. Acetic acid, when added to the cold liquid, also produced turbidity, which did not disappear in an excess of this acid. Alcohol caused turbidity, also a precipitate of white flocculi. It would appear, therefore, that this liquid contained albuminate of soda in solution, together with another soluble substance—most probably mucus. After being allowed to stand at rest for twenty-four hours, this clear filtered fluid became whitish and turbid, depositing a sediment of small white granules.

Upon examining beneath the microscope, the matters which were left on the filter, they were found to be composed of a large quantity of distended mucus corpuscles, containing distinct nuclei; also of many separate nuclei, and of a large quantity of nucleoli, or granules.

As above stated, the watery fluid obtained by filtration became turbid in about twenty-four hours, and deposited a number of small granules; whence it would seem that this formation of granules had been carried on after separation from the organism, and was probably effected by the influence of the oxygen of the air on the albuminous fluid. [Dr. Golding Bird, however, noticed a similar deposit take place in the viscid glairy fluid secreted during the first stage of acute bronchitis, after exposure for a few days to an atmosphere of hydrogen; whence it would appear that oxygen is not essential to its formation. When examined beneath the microscope, the white cream-like precipitate that was formed, appeared to consist of minute round particles, and possessed all the chemical properties of insoluble albumen.*] These granules are insoluble in water and dilute acetic acid, which they were not before oxidation. When once separated in this solid form, they probably act as ferment-globules to the remainder of the fluid, the decomposition of which they speedily induce. The like has been observed in vegetable juices containing albumen, such as the juice of grapes; through the influence of the atmosphere the globules first appear as small solid particles; these gradually increase in quantity, and the fluid becomes turbid from the presence of them. At the same time saccharine fermentation commences, and is most probably produced by the influence of these small corpuscles acting as a ferment. This turbidity invariably takes place in all those fluids in which albumen exists, either alone or in the form of albuminate of soda, and especially where the fluid is much diluted with water; such, for instance, as in blood, urine, &c. This formation of the granules, which takes place in the fluids whilst cold, corresponds to the formation of the fine pellicle, in fluids containing casein or albuminate of soda, on slowly warming them. It seems most probable that in these latter cases this change also results from the action of the atmospheric oxygen, [a view which is confirmed by the fact that the pellicle in the latter case does not form when the fluid (as milk) is exposed to an atmosphere of carbonic acid.—Tr.]

Sputa of Broncho-Pneumonia.—Upon examining beneath the microscope the tenacious adhesive sputa (in which were large air-bubbles) of this affection, there were found large quantities of epithelial scales and of mucus corpuscles immersed in an amorphous, gelatinous-looking mucous substance. The mucus corpuscles were dissolved, though not completely, in acetic acid; their cell-walls were thereby rendered thinner and more transparent. The margins of those corpuscles were less contracted than those of pus corpuscles. The mucous substance within which these particles were retained was very abundant; on the addition of

* Philosophical Magazine, 3d series, Vol. 13.

acetic acid it swelled out and became partly dissolved. The above peculiarities distinguish this amorphous mass and the mucus corpuscles from normal mucous substance and ordinary mucus corpuscles, inasmuch as both these ingredients in the normal state are not only insoluble in, but coagulated by, acetic acid. It appears, therefore, that this secretion, particularly the amorphous substance, was chiefly composed of albuminous matter, having a disposition to solidity, and therefore allied to fibrin,—a view which was confirmed by the further chemical examination of it. Thus, when mixed with water and digested for a short time, there was obtained upon filtration a fluid containing a tolerably large quantity of albumen, and from which not a trace of mucus was precipitated by acetic acid; the matters insoluble in water, which remained on the filter, became almost entirely dissolved when warmed in acetic acid, and a precipitate was formed in the solution by ferrocyanuret of potassium, showing clearly its albuminous nature.

It appears, therefore, that the secretion from the bronchial mucous membrane, when secreted slowly in its natural condition, constitutes ordinary mucous substance, but becomes albuminous when secreted rapidly and under the influence of an inflammatory condition; and that this albuminous matter, when brought into contact with air, becomes gradually converted into a modification of fibrin; in croup it becomes actual fibrin.

Sputa of Chronic Bronchitis.—The sputa in this case were from a patient in whom examination after death discovered the existence of bronchitis, with considerable softening of the bronchial mucous membrane. Mixed with the thickish globular sputa were some yellowish cheesy-looking masses. Examined beneath the microscope, these sputa were found to contain a quantity of pus corpuscles and numerous drops of fat; the former were readily soluble in acetic acid, leaving behind triple nuclei; the acetic acid coagulated some mucous substance, which was not visible before; there was no epithelium discoverable. When portions of these sputa were mixed with water, and filtered, a fluid was obtained, which became turbid on boiling, and let fall a flocculent precipitate. In the filtered fluid acetic acid also produced turbidity, which did not entirely disappear on adding an excess of the acid. Alum also caused turbidity, owing to the presence of pyin. When digested in water these sputa gave out a large quantity of fat. The cheesy-looking masses contained in the sputa, when heated in a platinum dish, at first melted, and then burned with a clear bright light, leaving a black carbonaceous ash, which had an alkaline reaction when moistened, and contained rather a large quantity of phosphate of lime.—*Lond. Med. Gaz.*, Nov., 1845, from *Chemische und Microscopische Untersuch zur Pathologie.*

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11. *Blood in Scrofula.*—Mr. Nicholson, in a paper on the Scrofulous Diathesis, in the *Northern Journal of Medicine*, (Nov., 1845,) says that he has subjected a vast number of specimens of blood, taken from patients in every stage of scrofula, to analysis and found it always under the standard of health. Below are 12 cases arranged in a table, to save room, which correspond to the average of all his examinations:—

	Globules.	Fibrin.	Dissolved substances in Serum.	Water.
1	101·	3·	79·5	816·5
2	98·	2·8	79·	820·2
3	98·	2·4	79·1	820·5
4	97·	3·	79·	821·
5	96·5	2·5	78·	823·
6	80·	2·3	78·7	839·
7	79·	2·	79·	840·
8	79·	2·	80·	839·
9	63·5	1·2	80·	855·3
10	64·	1·8	79·	855·2
11	65·5	1·7	78·5	854·3
12	64·	2·	79·	855·

Such, Mr. N. remarks, is the evidence founded on chemical examination; and, aided by the microscope, we discover facts which give equal proofs of deteriora-

tion. The globules are fewer in number, appear lighter coloured and irregular Sometimes they look as if the circumference were notched and divided.

The phenomena of struma almost invariably are presented in the form of inflammation; as ophthalmia, inflammation of the joints or skin, &c. The view here taken of scrofula accounts satisfactorily for such an event. A very erroneous notion is prevalent, viz., that in proportion to the degree of plethora, is the obnoxiousness to inflammatory action. Nothing can be more incorrect, as any practitioner may attest, by referring to his own statistics. A very slight exposure to any efficient occasion, is adequate to produce a smart attack of inflammation, when the blood corpuscles are below their normal proportion. So it is that we have strumous ophthalmia, and similar affections, occurring so frequently in the poor and in debilitated constitutions.

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12. *Urine during Pregnancy.*—The late Dr. Simon, in a paper published in his "Beitrage," states that he has "examined the urine during the second, third, fourth, fifth, and sixth months of pregnancy, but has not invariably detected kystein. In the cases in which it was formed, as in the second, fifth, and sixth months of pregnancy, the urine on emission was clear, yellow, faintly acid, and not effected either by nitric or acetic acid, or by heat. Usually, in about twenty-four hours, the whole urine became slightly turbid, the acid reaction disappeared, a white viscid sediment was deposited, and soon afterwards the surface of the fluid became covered with a pellicle at first extremely delicate, but after from twelve to twenty-four hours becoming tough, thick, opaque, and with a glistening appearance, in consequence of the light reflected from numerous minute crystals of ammoniaco-magnesian phosphate with which it was studded. On examining this pellicle in its early state under the microscope, it appeared (when magnified three hundred times) to consist of an amorphous matter composed of minute, opaque points, such as are presented by sediments of phosphate of lime or urate of ammonia, except that in the latter the individual particles are usually darker, more clearly defined, and larger than in kystein. The whole field of vision was likewise bestrewed with numerous vibriones in active motion, and crystals of ammoniaco-magnesian phosphate. When the pellicle became thicker, precisely similar phenomena were observed, but the vibriones were supplanted by a considerable number of monads; on the addition of acetic acid the crystals disappeared, while the amorphous matter remained unaffected. On digesting the pellicle in acetic acid, and adding ferrocyanide of potassium to the filtered solution, a comparatively slight turbidity ensued, but on macerating the pellicle in a dilute solution of potash, acidulating the filtered solution with acetic acid, heating, and adding ferrocyanide of potassium after a second filtration, a more decided turbidity was observed. From these experiments I concluded that a protein-compound was present. The white sediment, that occurred after the urine had stood for some days, possessed a disagreeable, pungent, caseous odour; under the microscope it presented the same appearance as the pellicle. After repeatedly washing a portion of the sediment with water, and then heating it with alcohol and a little sulphuric acid, it developed a disagreeable fruit-like odour: reminding me of butyric ether. [We shall presently show that the accuracy of this observation has been thoroughly established by Lehmann.] It results from the above observations, that kystein is not a new and distinct substance, but a protein-compound, whose formation is undoubtedly and closely connected with the lacteal secretion. From the observation of Kane and myself, it seems to follow that pregnancy may exist without the occurrence of kystein in the urine; if, however, there is a probability or possibility of pregnancy, and kystein is found in the urine, then the probability is reduced almost to a certainty. We are unable to draw any positive inferences respecting the stage of pregnancy from the appearance of the kystein.

"A deposit of caseous matter and earthy phosphates was frequently observed by Golding Bird in the advanced stages of pregnancy. This sediment is probably similar to Nauche's kystein.

"Every urine left to itself forms a pellicle, more or less resembling that of kystein. If formed soon after the urine is discharged, it consists of earthy phosphates, which, from the urine being alkaline, are for the most part precipitated,

but likewise form a delicate film on the surface. When this is the case, the pellicle is very thin and readily sinks to the bottom. Under the microscope crystals of ammoniaco-magnesian phosphate, and an amorphous matter very similar to kystein, but consisting of phosphate of lime, are observed: this likewise differs from kystein in being soluble in free acids. A pellicle of fat on the surface of urine may sometimes be mistaken for kystein; films of this nature are very thin and usually iridescent, and under the microscope reveal the presence of numerous fat-globules.

"The membrane formed on the surface of urine six or eight days after emission, usually consists of a species of mould; under the microscope there may be seen innumerable filaments matted together, and interspersed with sporules.

"I once observed a pellicle on the surface of a man's urine three days after emission, which, both in chemical and microscopical characters, presented the closest analogy to kystein."*

Lehmann† frequently examined the urine of a pregnant woman from the second to the seventh month. It was of a dirty yellow colour, and more inclined to froth than usual; it generally became turbid in from two to six hours; but the morning urine, after standing for thirty-six or forty-eight hours, was always covered with a grayish-white film, which often, in two or three days, sank and mixed with the sediment that formed when the turbidity appeared, but sometimes was a longer period before it broke up. By means of ether, he could always remove from this film a considerable quantity of viscid fat, which formed a soap with potash, and then, on the addition of sulphuric acid, developed a well-marked odour of butyric acid. On treating a large quantity of this urine with sulphuric acid, and distilling, he obtained, after treating the distillate with baryta water, brilliant crystals of butyrate of baryta. The substance taken up by ether, when greatly evaporated with nitric acid, and exposed to the vapour of ammonia, was not in the least reddened; with concentrated hydrochloric acid, on the other hand, it assumed a blue tint; dissolved in potash, boiled, and treated with hydrochloric acid, it developed sulphuretted hydrogen; it dissolved tolerably freely in acetic acid, from which it was precipitated by ferrocyanide of potassium. These reactions left no doubt of its being a protein-compound. The portion of the film insoluble in potash, consisted chiefly of phosphate of magnesia (ammoniaco-magnesian phosphate?) with a little phosphate of lime. Hence Lehmann concludes that the kystein of Nauche is not a new and distinct substance, but a mixture of butyraceous fat, phosphate of magnesia, and a protein-compound very similar to casein. He likewise mentions that, in examining the urine of a woman who was not sucking, and was kept on very low and sparing diet, on the third, fourth, sixth and ninth days after delivery, he found a large quantity of butyric acid taken up by ether from the solid residue; and on dissolving the ethereal extract in water, adding sulphuric acid, and distilling, he obtained a further quantity. The urine in this case was always rather turbid, of a dirty yellow colour, very acid, and contained a very small amount of uric acid.

Moller‡ relates two cases in which the urine of women, who were not pregnant, was covered with a film exactly resembling kystein; in one case there was considerable hypertrophy of the uterus; in the other, no affection of the generative organs could be detected. The film of kystein consists, according to his observations, of fat. earthy phosphates, and a caseous matter, which differs, however, from the casein of milk in being held in solution by a free acid. When the urine becomes neutral or alkaline, the caseous matter ceases to be held in solution, and separates as kystein. Everything checking the decomposition of the urine hinders the formation of the pellicle, and if the recent secretion is treated with a free acid (mineral or organic) no separation of kystein takes place, even if ammonia be added to saturation, or decomposition allowed to proceed to any extent.

In a case of decided pregnancy, no kystein was formed during the period of a

* [A similar appearance has been observed by Prout in the urine of a delicate child, fed chiefly on milk. (On Stomach and Renal Diseases, 4th edit., p. 555, note.)]

† Lehrbuch der Physiologischen Chemie, vol. i., p. 252.

‡ Casper's Wochenschr., Jan. 11–18, 1845.

severe cold, attended with a copious deposition of urates; but when the urine became natural, the kystein reappeared. He twice detected cholesterin in kystein.

Kleybolte* has examined the urine in ten cases of pregnancy, and invariably found kystein on the fifth day. The morning secretion was used, and, after being slightly covered to protect it from dust, was allowed to stand, at an ordinary temperature, for ten days. The following appearances were observed in the tenth week of pregnancy: urine peculiarly yellow, with a greenish tint. Second day, mucous sediment; third day, no change; fourth day, turbidity ascending from the bottom; fifth day, white points and leaflets on the surface, turbidity ascending from all parts of the bottom, and the sediment almost gone; sixth day, kystein distinctly observed on the surface, like lumps of fat on the surface of cold broth; seventh day, no change. From the eighth to the tenth day, the kystein disappears, the turbidity again descends, and the sediment noticed on the second day is reproduced. The nine remaining cases are in most respects similar to the above.

A few observations on kystein have been recently published by Audouard,† but contain nothing of importance, except that in six specimens of urine, passed by young women suffering from amenorrhœa,—he found kystein in five.‡—Day's *Report* in *Ranking's Abstract*, vol. ii.

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13. *Tubercle.*—Amongst the contributions to chemical pathology, which have been made since our last report, may be mentioned Dr. Wright's essays on the "Pathology of Expectoration." These have been published in the "Medical Times;" they are upwards of thirty in number, and constitute a most admirable addition to our store of knowledge in pathology and practical medicine. Dispersed as they are, over many pages, in different numbers of the periodical referred to, they are necessarily not easy of reference; and we trust, therefore, that Dr. Wright will see the necessity of shortly bringing them out in a separate form, so that they may be more readily within the reach of whosoever may require to consult them.

Dr. Wright's views on the pathology of tubercle are to some extent novel, and we think consistent with the most established facts of physiology, pathology, and chemistry. "In prosecuting this subject," he observes, "I find it most convenient to treat of tubercle according to what may be termed the natural history of its formation. This embraces two particular and definite stages, viz., its primitive, or developmental stage, and its matured, or complete stage; to which, however, may be added a third, not connected with the formative process of tubercle, viz., its softened or decomposing stage. By the term primitive stage, I mean that which is antecedent to the conversion of any, or all, of the tubercle into a yellowish, cheesy-looking, friable mass; the matured stage, which I believe to be the result, for the most part, of an imperfect and depraved organic action in the tubercular body itself, is indicated by the total conversion of this body into the mass whose appearance I have just described; the softened stage is consequent upon a play of chemical affinities amongst the ultimate constituents of the tubercular matter, and represents various degrees of structural disintegration, fluidity, and rottenness."§

"Tubercular matter," he says, "may be formed either in the blood-vessels, or externally to them. But wherever tubercle is produced, the blood itself is essentially the source of it. In those cases, numerous enough, in which tubercle is discharged abundantly, and in a state of complete maturation, from the mucous membrane of the trachea, or bronchi, or bowels, without any lesion of these parts, such matter must have been formed and matured in the circulating system, whence it was eliminated as a foreign body by the most eligible outlet.‖

"If we examine with a good microscope slices of the less diseased portions of the lung of a person who has died of phthisis, we generally recognize a great

* Casper's Wochenschrift, April 26, 1845.

† Journal de Chimie Méd., May, 1845.

‡ Many other communications have recently been published on this subject, which I do not deem necessary to notice, as they are, for the most part, simply confirmatory of the above observations.

§ Med. Times, vol. xi., p. 77. ‖ Loc. cit.

variety of elemental tubercular matter. The following are the chief of its appearances. Granules (resembling in aspect those of germinal cells and of pus-globules), varying from 1-800th to 1-1600th of a line in diameter; aggregated granules, easily detachable from each other, forming an opaque mulberry-shaped mass of variable size; cells, or vesicles, from 1-2500th to 1-1160th of an inch in diameter, of different degrees of transparency, density and development, the complete ones consisting of an envelop and a contained albuminous fluid, with or without central or peripheral granules; and flakes or filaments of all shapes, apparently derived from ruptured vesicles. The cells or vesicles are often of larger size than those just mentioned, especially in the lungs, liver, and mesentery of tame rabbits (giving rise to the fanciful notion that they are hydatids), and in the scrofulous peritoneal deposits of pigs; but in the human subject they are rarely found of any magnitude. If the point of a very delicate needle, sufficiently heated, be passed into the interior of one of these transparent vesicular tubercles, it instantly becomes opaque throughout, from a coagulation of its albumen. This change also takes place spontaneously, at indefinite periods, after the development of the vesicular tubercles, commencing either at their circumference or their centre, and is generally the precedent of the phenomena of maturation. This opacity often occurs, and is not succeeded by any further change in the substance of the tubercular matter. Often the vesicular tubercle enlarges, so as to be readily visible by the naked eye, before becoming opaque, and as often this opacity occurs, the tubercle remaining microscopically small. Under other circumstances, the vesicular tubercle will gradually increase in solidity, and finally become firm and hard, whilst retaining, almost unimpaired, its original transparency. In this state it looks like a particle of very delicate horn. Vesicular tubercles are differently shaped; they vary with their locality; some are globular, some disc-like, some oval, and others irregularly angular. Occasionally, when the vesicular tubercle has not proceeded to the stage of maturation, but has had the watery part of its contents absorbed, the envelop shrinks, and consequently may become crenated, wrinkled, ragged, and variously misshapen.

"As the process of tubercular deposition in the lungs is generally, to a certain extent, in conformity with the laws which determine the formation and regeneration of normal tissues, it not uncommonly happens that the tubercle attaches itself closely, and somewhat complicatedly, to the parenchymatous structure, and can only be separated from the latter by force, when it generally brings away with it a quantity of minute fibrous or mucous material, which gives to the circumference of the tubercle, when placed in water, a pilous appearance. This external covering was first described by Rochoux, who, however, erred in considering it an invariable occurrence, and an appendage *peculiar* to tubercle, instead of what it really is, an adventitious and only occasional attachment. Other appearances than those I have described as belonging to tubercle, appertain to its advanced stages, and are generally recognizable by the naked eye." (*Op. cit.*, pp. 377–78.)

Dr. Wright believes, with most other pathologists, that the formation of tubercle is due to an "error of nutrition," of which he thus speaks: "Mr. Addison says that 'tubercles of the lungs consist of matter accumulated by colourless blood-cells.' To this opinion I am not prepared to subscribe. Elementary granules may, by their aggregation and subsequent development, form colourless blood-corpuscles, pus-globules, or vesicular tubercles; but these are not convertible into each other,—they are specific structures, and cannot be transformed into any analogous structure; they can only advance or retrograde. Hence it may happen to the colourless corpuscles to form healthy tissue, whilst pus and tubercle, in every succeeding change, become more blighted and disorganized. A colourless blood-corpuscle can no more form a pus-globule or a vesicular tubercle, than can either of the latter form a blood-corpuscle. These bodies are as distinct in their microscopical appearances as they are in the circumstances of their formation, or in the final purposes which they serve, or effects which they produce, in the animal economy.

"The extreme states of primitive tubercle are granules and vesicles: the former are elemental of the tubercle; the latter are the perfection of its primitive stage. In so far we see a certain correspondence between the generation of tubercle and the production of normal tissue.

"Tubercle commences with an aggregation of granules; their number may be

few or many. These granules, like those which form colourless blood-corpuscles and pus-globules, have a tendency to develop themselves into a higher structure, and to form cells. From some imperfection, however, either in themselves alone, or aided by a morbid action in the parts wherein they are being deposited, they either remain stationary as granules, or proceed only to an imperfect cell, viz., the corpuscle or vesicle already described. In passing to this vesicular state, the granules, if their number were originally few, are appropriated and expended in the developing of the tubercle, which is consequently seen to possess neither central nor peripheral molecules. When the granules aggregate more numerously, some of them are elevated into a vesicle inclosing the remainder, which appears to aid in the further spontaneous actions of the tubercle, viz., those of maturation. Vesicular tubercles which contain no granules, maturate much more slowly than those which are nucleated.

"Primitive tubercle, though incapable of any direct approach to organization, is not, strictly speaking, an inert body; it is semi-organized, and retains some portion of that low vitality with which it was impressed in its rise and progress from a few aggregated granules. In this consists its dangerous and destructive tendency. The elements of tubercle (granules) may remain in the lungs *ad infinitum*, and neither the patients suffer from them nor physical diagnosis be able to detect their presence; and frequently, indeed, the vesicular tubercles will continue stationary for years, and though obstructing respiration in the portion of lung containing them, may not excite in it any inflammatory action, nor themselves undergo any further, change. Too, often, however, these semi-organized bodies, with their low vitality, perpetuate the action to which they were indebted for their origin, and in consequence pass on to an alteration both of structure and composition, and become *matured tubercles*, at which stage all vitality and all organic power leave them. This maturative action is, for the most part, performed by the constituents of the tubercle, *per se*, though it is in some measure, no doubt, dependent upon the connection of the tubercle with a living body. It never takes place in the dead subject, nor if vesicular tubercle be removed from its site, can any artificial process induce in it the action which is essential to maturation. I have subjected this tubercle, both in its solid and fluid state, to every variety of spontaneous and chemical destruction, without having in any one instance observed an approach to that action, or to the result of it, which in the living body is the necessary forerunner of tubercular softening. Primitive tubercular matter, in its solid state, undergoes decomposition out of the body with singular tardiness. Often, indeed, it will scarcely decompose at all. I have specimens by me at this moment, which are perfectly sound and free from change, though they have been kept without any precaution for nearly five months. Even when *in situ*, it is not uncommon to see the pulmonary tissue of a dead subject sinking into putrescence around these tubercles, themselves being unaffected, or only commencing to decay. I have frequently seen the solid varieties of primitive tubercle floating unchanged in the liquid products of decomposition. And when vesicular tubercle *does* decompose, it undergoes no alteration of composition or of appearance beyond that which any simply albuminous matter suffers in the process of decay. But the action of tubercular maturation in the living body is a very different thing. From having been simply and entirely albuminous, the tubercle has become more compound in its nature. It now contains a notable, but a variable proportion of fat; occasionally gelatin; and its albumen, instead of being homogeneous-looking, has acquired an irregularly granular and massy appearance, and sometimes seems to have made an approach even to a fibrous structure. The action necessary to this change has no analogue in any process of decomposition with which we are acquainted. It is (within certain limits) to all intents and purposes an organic action. It is, perhaps, as low a form of organic action as any we are acquainted with, but is plainly an offspring of forces which are beyond those that are merely chemical and physical. (*Op. cit.*, pp. 418–19.)

"The process of tubercular softening, *properly so called*, is simply one of decomposition. It has nothing in common with the development and maturation of tubercle, but is consequent merely upon a chemical change of the elements of matured tubercle." (p. 477.) Upon the subject of the absorption of tubercular matter, Dr. Wright makes certain observations as the result of extensive and carefully con-

ducted experiments. He says, "Tubercular matter in small quantity, in the blood, is productive of no inconvenience or injury so long as it circulates freely; and if its discharge by any mucous membrane, not likely to give it lodgment, be certain, I think it probable that tubercle might be constantly passing through the circulation without occasioning injury. Tubercle, before having commenced to decompose, is as harmless as laudable pus, or any other substance having a similar composition. The only manner in which it could prove detrimental in the blood-vessels, would be by accumulating in some situation where, by not being subsequently thrown off, it would decompose, and so lead to the destruction of the contiguous tissue, or to the contamination of the whole system." (Op. cit., p. 525.) Concerning the chemistry of tubercle, Dr. Wright says, "Its composition is scarcely less variable than are its physical appearances and properties. Like these it differs according to the age, the degree of maturation, and the locality of tubercular matter. Chemists as well as microscopists, have fallen into the error of taking a single specimen of tubercle in a particular state ('crude'), and from its analysis, of inferring the composition of tubercle in its entire acceptation. No error of inquiry or induction can be greater than this.

"Primitive tubercular matter, in its fluid transparent state, is purely albuminous, and affords neither reactions nor analytical results at variance with those of any simple albuminous solution. It appears to be neutral to test-paper, but galvanism or incineration furnishes evidence of the presence of soda. Sulphur is also a constituent, but in still smaller proportion.

"Solid primitive tubercle, transparent or opaque, usually answers to analysis like coagulated albumen. Often, however, owing to the length of time it may have been deposited, or the situation in which it may have been placed, it will be found to have acquired a greater or less proportion of earthy or saline matter, or both. The change appears to be effected by a process of endosmose and exosmose.

"Matured tubercle, also, according to the extent of its maturation, will vary in chemical composition. In proportion as it has advanced to maturity, will its fatty matter, or gelatin, or fibrin, or all of these, be abundant. The ratio of its earthy and saline constituents is also liable to much variation.

"In the progress of decomposition (softening) the constituents of tubercle are changed both in number and kind. The gelatin is usually the first to disappear; then the traces of fibrinous structure become indistinct or are lost; the cells are obliterated; the fatty matter is discoloured and fetid; ammonia, or its hydrosulphate, is disengaged, and the mass sinks into liquidity and rottenness."

Dr. Wright says, that tubercle is apt to derive some physical or chemical peculiarity according to its site, as, for instance, in the liver, brain, mesentery, kidney and near the rectum. (Op. cit., p. 525.) He found the composition of matured (cheesy) tubercle to vary considerably. The two following analyses he gives as the mean result of his investigations:

Fatty matter, with oil globules	15·9
Gelatin	6·4
Phosphates, Sulphates, Muriates (Lime, Soda)	11·2
Carbonate of lime, a trace.	
Oxide of iron, a trace.	
Albuminous matter with fibrin	65·2
	98·7
Fatty matter, with oil-globules	7·4
Gelatin	11·8
Phosphates, Sulphates, Muriates (Lime, Soda)	2·5
Albuminous matter	76·9
	98·6

—*Ibid.*

MATERIA MEDICA AND PHARMACY.

14. *Aconite.*—The most important contribution to our knowledge of the materia medica that has appeared during the last six months is undoubtedly Dr. Fleming's treatise on aconite.* Passing over the first two sections which embrace the consideration of the history, botany, and physical characters of the aconitum napellus; the influence of climate and culture on its properties; the respective activity of different parts of the plant; the influence of seasons on the activity of the roots and leaves; and the physiological action of the plant on vegetables and animals,—we arrive at the consideration of its physiological effects on man. The topical action is first considered. It acts as a direct sedative to the nerves of sensation, and, as might be expected, its action is most marked when applied to a surface abundantly supplied with nerves. The physiological action on man in small or medicinal doses is considered under the four following degrees of operation.

First degree of operation.—In the course of twenty minutes or half an hour after the exhibition of five minims of the tincture, a feeling of warmth in the stomach is usually experienced, which is occasionally accompanied by a slight nausea and oppression of the breathing. After the lapse of thirty or forty minutes this sense of warmth is diffused throughout the body, and in a few minutes more is attended by numbness, tingling, and sense of distension of the lips and tongue. There is also tingling at the tips of the fingers, and a peculiar sensation is felt at the roots of the teeth. The feeling of warmth soon disappears, but the numbness and tingling of the lips and fingers continue for a period, varying from one to three hours. Slight muscular weakness is generally experienced, with indisposition for exertion either mental or corporeal. In about half an hour more the pulse is found to be diminished in strength, and in another hour both the pulse and the respiration have become less frequent. Thus a pulse which, in the normal state, beats seventy-two in the minute, will by that time have fallen to about sixty-four, and the respirations, supposing them to have been eighteen, to fifteen or sixteen.

Second degree of operation.—Should a dose of ten minims be given at first, or a dose of five minims be succeeded in two hours by another of equal amount, these symptoms supervene more rapidly, and with greater severity. The tingling extends along the arms, and the sensibility of the surface is more or less impaired. In an hour and a half the pulse will probably have fallen to about fifty-six beats in the minute, and become smaller and weaker than before, still maintaining, however, perfect regularity. The respirations will have diminished to about thirteen, presenting at the same time a slow, labouring character. Great muscular debility is now experienced; a giddiness, with confusion of sight, comes on when the erect posture is assumed. The individual sinks into a lethargic condition, evinces great disinclination to be disturbed, although he rarely falls asleep, and complains much of chilliness, particularly in the extremities, which are cold to the touch. These phenomena continue in their full intensity from three to five hours, when they gradually disappear, a sensation of languor, which lasts for several hours more, alone remaining. This is the utmost extent to which I would recommend the physiological effects of aconite to be carried, in order to obtain, with safety and success, its therapeutic action.

Third degree of operation.—On the administration of five minims more two hours subsequent to the last dose, the sense of warmth, and the numbness and tingling, again spread rapidly over the body. The sensibility of the surface is still further diminished; lancinating pains in the joints are occasionally complained of; the headache, vertigo, and dimness of vision are aggravated; the countenance grows pale and anxious; the muscular feebleness increases; the voice becomes weak, and the individual is frequently impressed with the dread of approaching dissolution. Occasionally the pulse is reduced still further in strength and frequency, perhaps falling to 40, or even 36 beats per minute, but still maintaining its regu-

* An Inquiry into the Physiological and Medicinal Properties of the Aconitum Napellus. By Alexander Fleming, M. D., President of the Royal Medical Society of Edinburgh. London, 1845.

larity. More frequently, however, it rises to 70 or 80, and becomes small, weak, and probably more or less irregular. The respiratory movements are also irregular, being either short and hurried, or deep and sighing. The surface is moist, and still farther reduced in temperature. Sickness may now come on; and, if formerly present, is much aggravated, and probably attended by vomiting. These symptoms do not entirely subside for two or three days.

Fourth degree of operation.—On the administration of a fourth dose of five minims, two hours after the third, the symptoms assume a more alarming character. The countenance becomes pale and sunken; froth issues from the mouth, and the prostration increases. Some thus affected have stated that they felt as if dying from excessive loss of blood. Consciousness usually remains, or there may be slight wandering delirium, as occurs also after profuse hemorrhage. The voice is whispering, or is altogether lost. The pulse becomes still smaller, weaker and more irregular, and the breathing more imperfect. The surface is colder than before, and is covered with a clammy sweat.

I have seen patients recover from this state under the administration of proper remedies. When the action of the drug is carried to a fatal extent, the individual becomes entirely blind, deaf and speechless. He either retains his consciousness to the last, or is affected with slight wandering delirium, the pupils are dilated, general muscular tremors, or even slight convulsions, supervene; the pulse becomes imperceptible, both at the wrist and heart; the temperature of the surface sinks still lower than before, and at length, after a few hurried gasps, death by syncope takes place.

Dr. Fleming then treats in detail of the effects of aconite on the different systems of organs. We regret that we have merely space for his most important conclusions.

With respect to the action of aconite on the cerebro-spinal and muscular systems, he finds:

1. That it is calmative, anodyne, and antispasmodic.
2. That it is an advisable antiphlogistic in apoplexy, phrenitis, or any disease in which the circulation of the brain is excited.
3. That it is contra-indicated in headache arising from anemia or chlorosis, and whenever there is a torpid or paralytic condition of the muscular system.
4. Its properties suggest its employment in convulsive or spasmodic diseases.

The following are the practical inferences deducible from a consideration of the action of aconite on the circulation:

1. That it is a powerful antiphlogistic.
2. That it is calculated to be of great value in all cases when there is inordinate activity of the circulation.
3. That it is contra-indicated, when there is obvious mechanical impediment to the passage of the blood, particularly through the heart or lungs. It is requisite, therefore, in every case, to ascertain that no such obstruction exists before commencing its use.
4. That it is contra-indicated, whenever there is irritability of the circulation, with great diminution of power, such as occurs after severe hemorrhage.

The practical inferences respecting its action on the respiratory system are these:

1. Aconite will probably be found a highly advantageous antiphlogistic in pneumonia, pleuritis, &c.
2. It seems calculated to be serviceable in spasmodic asthma.
3. It is contra-indicated in difficulty of breathing, arising from any other cause than inflammation or spasm.
4. In cases of advanced bronchitis, with excess of secretion, it would prove highly injurious, by diminishing still further the power of expectoration.

After noticing the effect of aconite on the alimentary canal and secretory system, he proceeds to the consideration of the effects of the drug in large and poisonous doses. This section belongs more to medical jurisprudence than to materia medica. He concludes it with the observation, that "four grains of the alcoholic extract have proved fatal, and two grains have produced the most alarming symptoms."

Section 4th, embracing the therapeutic action of aconite, abounds in matter of

the highest interest, and deserves a most attentive perusal. We could not, in justice to the author, much abbreviate it, and we shall therefore conclude our notice with a few observations on the method of administering aconite. The preparations expressly noticed by Dr. Fleming are:

a. Tinctura Aconiti. Take of root of A. Napellus, carefully dried and finely powdered, 16 ounces troy; rectified spirit, 16 fluid ounces; macerate for four days, then pack into percolator: add rectified spirit until 24 ounces of tincture are obtained. It is beautifully transparent, of the colour of sherry, and the taste is slightly bitter.

b. Extractum Alcoholicum Aconiti.—This is prepared by distilling, at a low temperature, the spirit for the tincture, until the consistence of an extract has been obtained. The process should be completed in a vapour bath. The colour is dark brown, or almost black; it has an agreeable smell, and a bitter taste. The dose is one-third of a grain thrice daily; commencing with one-sixth of a grain.

Of these two preparations, Dr. Fleming prefers the tincture, from its greater uniformity of action; the average dose is five minims three times daily, and to be increased, if requisite, by one minim each dose.

c. For external use, the following formula is recommended:

℞.—Aconitinæ . . gr. xvj.
Spirit. rect. . . ℥xvj, fere optime.
Deinde adde axungiæ . ℥j, ut fiat unguentum.

If, after a few applications, this ointment loses its effect, the proportion of aconitina must be increased to three, four, or even eight grains to the drachm. (36.) —Day's *Report* in *Ranking's Half-yearly Abstract*, vol. ii.

15. *Preparation of the Caustic of Filhos.* The original department of this No. is enriched by a communication from M. Amussat of Paris, in which he describes a new treatment of hemorrhoids, with the caustic of M. Filhos. As the mode of preparing that caustic is not contained in the works generally accessible in this country, we give the following process indicated by M. F. Boudet, taken from the *Annuaire de Thérapeutique* for 1845 of M. Boucharcourt.

The cylinders of caustic, which are most used, have a diameter of from six millimetres to a centimetre in the interior of the leaden tube in which they are contained. Leaden tubes of from one to two metres long are obtained, and they are cut by means of a cord attached by both its ends to a fixed point, and rolled round the tube at the part where it is desirable to divide it. By proceeding in this manner, the parietes of the tube are bent inwards towards the centre, and there remains only a narrow opening, which is easily closed with the hammer, and a drill introduced into the tube. This operation ought to be practised with a great deal of care, for the slightest fissure in the tubes would render them useless when once they are filled with caustic. The tubes being thus prepared, they are placed in moist earth, at three centimetres from each other, in such a manner that their open extremity projects slightly.

The caustic is then prepared as follows:—120 grammes of potassa cum calce are put in an iron spoon, and heat is rapidly applied, until the spoon becomes of a dull red heat, and the potash is in a state of quiet fusion; forty grammes of quick-lime, in fine powder, are then added in two or three times, and the mixture is effected by means of a piece of iron: the lime is instantly perfectly divided in the potash, without the fluidity of the latter sensibly diminishing: the caustic is then poured into the tubes until they are quite full, and they are then set aside to cool.

As soon as they are cool, their upper surface is made smooth, and the whole outer surface is well scraped, so as to diminish its thickness as much as possible, without making a hole in its parietes. In order to preserve them, they are enclosed, with the open extremity downwards, in thick glass or crystal tubes, stoppered either by cork or emery, and containing at the bottom a layer of powdered quick-lime, from one to two centimetres thick, the object of which is to keep the uncovered surface of the caustic always in a dry state. A piece of cotton is also to be placed between the cylinder and the cork, in order to keep it in a fixed position in the tube.

MEDICAL PATHOLOGY AND THERAPEUTICS AND PRACTICAL MEDICINE.

16. *Turpentine in Large Doses in the Treatment of Purpura Hemorrhagica.* By Dr. J. Moore Neligan, (*Monthly Journ. of Med. Sci.*, Dec., 1845.) Dr. Neligan, whilst acting as one of the Physicians of the city of Cork Dispensary, met with eight cases of purpura hemorrhagica of the worst form; the district in which they occurred being the poorest in the city, and those attacked with the disease were nearly all of broken-down constitutions, owing to overwork and insufficient nutriment. As they were of an asthenic character, he treated the first two cases which came under his care, on the tonic plan, without success; in the next case he had recourse to free purgation; but this case, which was not seen, however, until the disease was very far advanced, also terminated fatally. The fourth case, in which the individual was younger and of a more robust habit of body, terminated favourably under the free use of purgatives.

"From the result of these four cases I was led," Dr. N. states, "to place but little reliance on the use of bark and acids in the treatment of this disease, and to look more favourably upon the employment of purgatives. I thought, however, that still more favourable results might be expected from the administration of oil of turpentine, which, while it acts as a powerful cathartic, also possesses the property of checking hemorrhage, depending on an atonic state of the smaller blood-vessels, owing, probably, to its powers as a diffusible stimulant. In consequence of those views, I employed this remedy in the four cases that afterwards came under my care while in charge of the district, and they all recovered. I prescribed the oil both in the form of draught and of enema; the usual dose for adults being from one ounce to an ounce and a-half, and for children from two drachms to half an ounce, generally in combination with castor oil, to render its cathartic action more certain.

"Since that time I have employed oil of turpentine in every case of purpura which has been under my care, and its use has been invariably attended with beneficial results."

Three cases are related by Dr. N. in illustration, one of which is the following:

William Flanagan, aged 50, a labourer, admitted into Jervis-street Hospital, July 1, 1845. The entire of the body and limbs is covered with small circular spots of various size and colour; from half a line to a line in diameter, and varying in colour from the florid red of arterial blood to a purplish-black hue. There are also several large, ecchymosed patches of a deep greenish-purple colour; those are situated chiefly on the right mamma, the elbows, the loins, and the backs of both legs. Firm pressure produces no effect on either the small or large spots. He complains very much of weakness, with pain in his back, which, together with a feeling of great lassitude, has, from the commencement of his illness, altogether prevented him from working. He is constantly coughing up a frothy serum, deeply tinged with blood; the gums also bled slightly, and he states that, previous to his admission into hospital, he passed bloody stools. The pulse beats about 60 in the minute, but is feeble and very compressible. The body is emaciated, and the countenance very expressive of anxiety.

In early life the patient was addicted to intemperance, nevertheless he enjoyed perfect health until the first attack of the present disease, which was about six months ago. Since that time he has been repeatedly attacked with the disease, but at no time so severely as at the present. He was in an hospital during the first seizure, where he was cured of it, but it reappeared in three months afterwards; he was again admitted into the same hospital, but having been discharged before the spots completely disappeared, they in a few days began to increase in size and in number, and he has never been free from them since. The great size of the vibices, together with the bloody dejections and sputa, and the complete prostration both of mind and body, compelled him at length to seek admission into this hospital.

July 2d. Many new spots have made their appearance since yesterday, and

the bowels have not been moved since his admission. ℞.—*Olei terebinthinæ* ℥*iss; syrupi* ℥*ii; aquæ menthæ piperitæ* ℥*ii. Misce. Fiat haustus statim sumendus.*

3*d*. Was somewhat intoxicated yesterday after taking the draught, which vomited and purged him freely, the stools being slightly mixed with grumous blood. He feels much better to-day, and eats with an appetite, which he has not done for some time. The spots are darker coloured than on admission, and some new ones have made their appearance, but the sputa are not so bloody.

4*th*. The large blotches are fading, and turning of a yellowish-green colour, while the small spots are disappearing; sputa still tinged with blood; bowels not moved yesterday. ℞.—*Olei terebinthinæ* ℥*iss; olei lini* ℥*i; decocti hordei* ℥*xvi. Fiat enema, et statim adhibeatur.*

5*th*. The patient is improved in every respect, with the exception of the sputa, which are more bloody; the bowels were affected only once by the enema; there is no appearance of blood in what he passed. ℞.—*Olei terebinthinæ* ℥*i; syrupi* ℥*ss; aquæ menthæ piperitæ* ℥*ii. Misce. Fiat haustus, statim sumendus.*

7*th*. Still improving; both large and small spots are gradually disappearing; bowels rather confined. The draught to be repeated, and to have full diet.

9*th*. Feels quite well to-day; none of the small spots to be seen, and the larger blotches much diminished in size; has had no expectoration for the last two days; as the bowels were confined, he was ordered the common castor oil draught.

12*th*. Flanagan was discharged to-day quite cured, having been kept in hospital until all the stains disappeared from the skin.

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17. *On the minute Anatomy and Pathology of Bright's Disease of the Kidney, and on the relation of the renal disease to those diseases of the liver, heart, and arteries, with which it is associated.* By George Johnson, M. D., of King's College. (Read to the Royal Med. & Chirurg. Soc., Nov. 11, 1845.)—The author began by stating that the true nature of Bright's disease was, he believed, to be found in a diseased state of the secretory or epithelium cells which line the urinary tubules. He arrived at this conclusion in the first week of July of the present year, at which period he demonstrated his preparations to Professors Todd and Partridge, and a paper containing the result of his researches was given into the hands of one of the secretaries of this society on the 7th of August.

The author then stated that he had ascertained that the secretory or epithelium cells of the kidney contain naturally a minute quantity of oil in the shape of globules, such as are familiar to microscopical observers. The presence of these globules is constant in the kidney, but its quantity varies considerably within the limits of health.

Bright's disease, the author considers, may be described as primarily and essentially an exaggeration of the fat which exists naturally in small quantities in the epithelium cells of the healthy gland—a fatty degeneration of the kidney analogous to the fatty degeneration of the liver described by Mr. Bowman.* This accumulation of fat in the secretory cells necessarily leads to the engorgement and dilatation of the tubules which they line, and one or more convoluted tubes, thus gorged with fat, and projecting either on the surface of the gland or on the surface of a section, constitutes one of the so-called "granulations of Bright." Some Malpighian bodies were observed to contain no fat, whilst others were gorged with fatty cells, but the author had never observed in these bodies an accumulation sufficient to produce destructive pressure on the Malpighian tuft of capillaries. The frequent connection of albuminous and bloody urine with Bright's disease, and the atrophy of the kidney, are attributed by the author to the mechanical operation of the above-described fatty accumulation. Having alluded to the circulation of the gland, as described by Mr. Bowman, he entered into a minute detail of the reasons which led him to the conclusion that the presence of albumen and blood in the urine is, in this disease, a secondary phenomenon, dependent on the previous morbid changes.

In reference to the atrophy which the kidney so often undergoes in this disease, the author contrasted the well-known peculiarities of the vascular organization of this organ with the very dissimilar arrangements of the vessels and secretory cells

* Lancet, January, 1842.

of the liver, an organ which appears to suffer but little from a similar engorgement in its cells.

In speaking of the stages of this disease, the author observed that he had no reason for believing in the existence of any congestive stage as necessarily preceding the morbid accumulation which he describes. The various forms about which so much has been said and written, he believes to depend in great part, if not entirely, on the rapidity with which the disease advances. In cases of long duration, the kidney is generally found small, contracted, and granular; when the progress of the case has been rapid, the gland is large, smooth and mottled.

The author then dwelt at some length on the frequent coincidence which he had observed of the disease in question with a similar fatty degeneration of the liver, arteries, and valves of the heart.

From the above data the author deduced the important practical conclusion, that these fatty degenerations, so often conjoined, are of constitutional origin, and that they must not be considered and treated as local disorders. He repudiated the notion of Bright's disease having any specific connection with scarlatina, neither did he believe in its alleged relation to acute inflammatory dropsy.

The causes of the disease are, according to the author, essentially debilitating; in large towns the disease is prevalent and fatal, in country districts it is comparatively rare. The disease has been artificially produced by Mr. Simon,* of King's College, in the lower animals, by their continued exposure to depressing influences.

With respect to the microscopical characters of the urine in this disease, the author remarks—1st. That the cylindrical bodies described by Dr. F. Simon are fibrinous casts of the tubes, frequently entangling blood discs, oil globules, or epithelial cells, with fatty contents. 2d. That the presence of much fat in the urine is an alarming symptom. In an advanced stage of the disease, fat rarely abounds, but from experiments on the lower animals, as well as from observation on the human subject, it seems probable that in many cases of chronic ill-health during a period in which no especial attention is directed to the state of the urine, there may be eliminated with this secretion such an excess of fatty matter as would, in reality, mark the first stage of Bright's disease.

On the subject of treatment, the author stated that the obvious indications were—

1. The pursuance of a general tonic regimen in respect of diet, atmosphere, exercise, and medicine.
2. The careful avoidance of all exhausting remedies.
3. To avoid, as articles of food, fat and other highly carbonized materials, &c.
4. To relieve congestion of the gland by strict attention to the functions of the skin and bowels, and by such small blood-lettings as circumstances might demand.

In the debate which followed the reading of this paper, Dr. Todd bore testimony to the accuracy of Dr. Johnson's statements. The admirable and lucid manner in which Dr. Johnson had expounded his views, would, he was sure, be generally acknowledged. He (Dr. Todd) had had the opportunity of watching the progress of the investigation, from its commencement in July to the completion of the paper which had just been read, and he would add, that he had rarely witnessed a more interesting inquiry. Independently of the intrinsic merit of this investigation, he felt that it was peculiarly important, as tending to turn the attention away from questions of mere vascular repletion, or the opposite condition, and to direct it to the real state of the elements of textures—as of the kidney, in the present case—as being those parts in which the seeds of disease are sown. According to the views now brought forward, we must count three stages in Bright's disease:—In the first stage there is a morbid state of the primary and secondary assimilating processes, giving rise to a diseased state of the blood. At this stage there are no very marked signs of disorder readily recognizable by the physician. The second stage is accompanied by a change in the attraction between the gland and certain constituents of blood, so that fat, which in health passes off by

* Observations on the Artificial Productions of Scrofulous Diseases in the Lower Animals, (unpublished.)

the kidney only in small quantity, is now attracted largely to its elementary parts, the epithelium cells, and accumulates in them to overloading. These gorged cells, collecting in the uriniferous tubes, press upon the capillary plexus of their walls, and throw back the blood on the Malpighian tufts, causing congestion or rupture of them. And this is the third stage, in which the urine becomes albuminous, and other signs appear, which have been so well pointed out by the extraordinary clinical research of Dr. Bright and his followers. A strong feeling had been growing up among practical men as to a close connection between this disease and scrofula. The author's statements respecting the artificial production of the disease in animals bore upon this subject; but further research was necessary before the exact nature of the connection could be determined.

Dr. Bright eulogized the paper as showing great industry and perseverance. It was a paper of the greatest interest, and to himself more especially so. He could not vouch for the accuracy of all the conclusions come to by the author, but they bore the appearance of the greatest probability—they appeared like truth. Should future observers confirm the correctness of Dr. Johnson's investigations, a most important vacuum in regard to the disease under discussion would be filled up, and a more rational line of treatment would doubtless be the result.

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18. *Chorea and its consequences.*—(*Prov. Med. & Surg. Journ.*, Nov. 12, 1845.)—Dr. Branson, in a paper on this subject read before the Sheffield Medical Society, Oct. 9th, 1845, points out the frequent occurrence of endocarditis (most frequently affecting the mitral valve) during an attack of chorea. The cases, he observed, cannot be classed with those in which disturbance of a distant organ is merely symptomatic of mischief situated in the nervous centres, inasmuch as the affection alluded to is organic and not functional; a mitral murmur existed, and a mitral murmur is never inorganic. It may be urged that continued functional disturbance may lead to organic disease; that the heart, like any other muscle, may be affected with chorea, and that this continued disturbance may at length give rise to inflammatory action. But what evidence is there of functional disturbance prior to the existence of the abnormal bruit? None whatever. There is no irregularity of pulse, no tumultuous action of the heart, in short, the equable character of the circulation is singularly contrasted with the violent jactitations of the patient; besides, the heart may be functionally deranged for a very long period without giving rise to any organic change, and, even supposing such a structural change to occur, hypertrophy, and not mitral mischief, would be the more probable result.

Since the commencement of 1843, Dr. B. has treated twenty-one patients affected with chorea, and of this number nine suffered more or less severely from heart disease. Dr. B. gave the details of several cases, and concluded his paper with the following propositions:—

1st. The necessity which exists for examining the heart constantly in all cases of chorea, since nine out of twenty-one consecutive patients affected with chorea, suffered more or less severely from heart disease.

2d. That disease of the heart is frequently the consequence and not the cause of chorea.

3d. That the heart affection which supervenes in chorea, is often extremely insidious, causing little distress at the time, and only to be detected by a stethoscopic examination, and yet the seeds of future mischief having a direct tendency to shorten life are then and there sown.

4th. That the valvular souffle heard in chorea is the result of inflammatory action, and does not depend, as in anemia, upon an altered condition of the blood—the inorganic murmur in anemia being heard invariably with the first sound, and loudest over the *aortic valves*, and not at the *apex* of the heart.

5th. That the endocardium covering the mitral valve is much more frequently the seat of inflammatory action, in simple chorea unaccompanied by rheumatism, than either the pericardium, or that portion of the endocardium which covers the aortic valves.

6th. That unless the heart affection be attacked in its very earliest stage, little hope remains of restoring the valve to a healthy condition, inasmuch as at the time the bruit is first heard there must exist a deposit of lymph upon or beneath

the endocardium covering the valve, sufficiently great in amount to prevent its perfect closure; and unless this deposit of lymph is of very recent formation, even the long-continued use of mercury and counter-irritation, our chief, if not only hope, will be of little avail in promoting its absorption.

7th. That mercury is more influential in promoting the absorption of lymph deposited on the pericardium, than on the lining membrane of the heart.

8th. That when the pericardium is affected in chorea, the rheumatic diathesis is more strongly marked than when the endocardium is the seat of disease.

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19. *Softening of the Pons Varolii.—Lead detected in the Cerebellum.* By Thomas Inman, M. D. James M'Ginn, aged 24, painter, of robust frame, admitted into the Liverpool Workhouse, with sloughing of the nates, August 29, 1844.

States that he was always a healthy man (with the exception of an attack of painters' colic) till four months ago, when he was suddenly seized while at work with giddiness, dimness of sight, pain in the forehead, weakness and numbness in his lower extremities. He had great difficulty in getting down the ladder on which he was and reaching his home, and next day was unable to leave the house. These symptoms increased in severity, and at the end of a fortnight he had lost all command over the left leg and thigh. The left arm likewise felt very weak, but never became paralytic. Pain in the head has never left him. His mind and memory have been gradually failing since the commencement of the disease.

On admission, the muscles of the face were unaffected; both pupils dilated, but obedient to a strong light; tongue protruded slightly towards the left side. The left arm is weaker than the right, but he can grasp pretty firmly with both. The left leg is completely paralyzed and almost deprived of sensation,—a hard pinch or prick being necessary to excite it. The right leg is weak, but he has command over it, and its sensation is tolerably perfect. No reflex motions excited by any irritant. There is no priapism. Urine and feces passed involuntarily. Complains of dull heavy frontal pain. The mind is weakened, the memory impaired. There is an appearance of hebetude like that in typhus. The tongue is dry and brown; the teeth covered with dark sordes; the speech is hesitating; the enunciation imperfect. Pulse 96, soft; respiration easy, abdominal. No delirium or coma; sleeps well; appetite bad. There is no blue line round the gums. Says he never had syphilis, or any injury of the head. There are extensive sloughs over the sacrum and trochanter, which have not as yet begun to separate.

Before he came into the house he had been cupped, bled, and blistered, but without relief. On his admission, a long issue was made over the sagittal suture and kept open by peas, and wine freely administered. Under this treatment he rallied for a time. The sloughs separated; the healing process commenced; the tongue became moister and cleaner; the pulse fell to 60, and the frontal pain abated. On the 13th of September, however, he was seized with severe pain in the stomach and vomiting; was found pulseless; the trunk and extremities cold and covered with a clammy sweat; his face red and flushed, but quite cold. His senses, were, however, unaffected. Stimuli had no effect upon him, and he died in a short time apparently of exhaustion.

Sectio cadaveris 24 hours after death.—Face and scalp greatly congested; calvarium dense and thick; membranes greatly injected, but not thickened or opaque. Brain was extraordinarily firm; lateral ventricles contained about four ounces of transparent serum, and their lining membrane was slightly rough. A good deal of fluid was found also at the base of the brain. No other lesion was detected till the *Pons Varolii* was divided, when a number of small foramina were noticed filled with softening matter, more numerous on the right than the left side, and giving the idea, when they had been subjected to a stream of water, as if they had been made by worms. On making a section on the right side, a cavity was found large enough to hold a small pea. The white and gray parts of the pons were distinct, and both equally affected. The rest of the pons seemed perfectly healthy.

On incinerating the cerebellum, treating it with nitric acid, and testing it by iodide of potassium, sulphuretted hydrogen, and metallic zinc, I found that it contained a very distinct quantity of lead, which I was able to exhibit deposited upon

zinc wire in the form of arborescent crystals. Being anxious to avoid any sources of fallacy, I subsequently repeated the whole of my experiments with a piece of mutton, but could not produce any precipitate with the most delicate tests.

This case presents many points of great interest. Was the presence of lead dependent upon the employment of the patient, and had it been accumulating since the time it first showed evidence of its existence by producing an attack of colic? Yet, if his system were impregnated, why was the blue line round the gums entirely absent? Again, did the lead existing in the brain determine the disease in that organ? Was it the remote cause of the softening and the effusion into the ventricles, or were these merely the effect of some other agent?

These questions I will not attempt to solve, since it would be impolitic in the greatest degree to draw conclusions from a single case, and I am only aware of one other example, a case of epilepsy, in which the disease of the brain appeared to be dependent on the presence of large quantities of lead in that organ.—*Report of Liverpool Path. Soc.* in *Edinburgh Med. & Surg. Journ.*, Oct., 1845.

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20. *Case of Apoplexy of the Pons Varolii.* By E. Parker, Esq.—Henry Fleetwood, aged 38, a spare man, of temperate habits, was brought to the Northern Hospital, May 22, 1844, under the following circumstances. The policemen on duty at the pier stated that the patient walked up to him and complained of feeling very ill; said that he was losing his sight, and having some property in his possession, he wished to receive assistance; he then became insensible, and had a slight convulsion, which passed off in a few moments; not recovering his consciousness, he was brought to the hospital. On admission there was complete insensibility; he could not be roused in the slightest degree; the extremities were relaxed and paralyzed; pupils contracted; irides insensible to the stimulus of light; respiration easy, and attended with a very slight degree of stertor; pulse 120. Shortly after being placed in bed his face and neck were observed to become much congested, and of a dark purple colour; his chest and larynx became fixed; respiration was suspended; the pulse feeble and intermittent, at last ceased to be felt; his arms were stretched out; head drawn back; mouth open. Thus asphyxiated he continued for a few seconds, when a long deep inspiration, succeeded by others of a gasping character, took place; the muscles became relaxed; the face resumed its proper colour; the pulse returned; and he appeared as when admitted, in a state of perfect coma. Fits such as the above recurred in quick succession, and he died about two hours and a half after admission.

Autopsy 18 *hours* P. M.—On removing the calvarium the surface of the brain was observed to be very moist; the arachnoid opaque and raised by serous exudation; the ventricles contained about two ounces of clear serum; the choroid plexus presented numerous minute vesicles filled with an opaque straw-coloured fluid. On slicing the brain it was found to be much congested, but did not present any sanguineous effusion. At the base on each side of the *Pons Varolii* small coagula were observed under the arachnoid membrane. Turning up the *medulla oblongata* another small rounded coagulum was seen protruding from the floor of the fourth ventricle. On dividing the *Pons Varolii* longitudinally it presented a cavity about the size of a walnut, filled with blood partly fluid, partly coagulated, which extended into the fourth ventricle. The walls of the cavity were very soft, of a reddish-gray colour, and of a flocculated appearance. Minute opaque spots of atheromatous deposits were observed in the coats of some of the arteries at the base of the brain.

The *Pons Varolii* is less frequently the seat of sanguineous effusion than any other portion of the nervous centre; a circumstance which may probably be explained by its greater density affording a proportionally increased degree of support to the blood-vessels which permeate it. The symptoms which characterize apoplectic lesions of this part of the brain do not appear to differ in any important respect from those which attend ordinary cases of apoplexy, or to present any peculiarity by which the seat of the effusion can be determined. Complete annihilation of the perceptive faculties, and great disturbance of the respiratory functions are observed, irrespective of the situation of the extravasation, providing this takes place to a considerable extent. Convulsions, noticed in the present instance, are not so invariably met with as materially to assist the diagnosis; indeed, it seems

probable, from the experiments of Flourens, that the occurrence of convulsions should rather be attributed to irritation of the quadrigeminal bodies than to injury of the *Pons* itself. The central situation and great importance of the annular protuberance, as the connecting medium of the three great divisions of the cerebro-spinal axis, would induce us at once to infer that extensive lesion of it must necessarily and quickly lead to fatal consequences. A less degree of injury is, however, by no means so fatal. Several cases are recorded by Cruveilhier in his Anatomie Pathologique, in which appearances indicative of former extravasation were found in persons who died of other diseases.—*Ibid.*

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21. *Case of Intestinal Obstruction; Sigmoid Flexure strangulated by the Ileum.* By E. Parker, Esq. Robert Black, aged 44, admitted into the Northern Hospital, May 16, 1844, under Dr. Hannay, is a powerful mechanic, of intemperate habits, and accustomed to drink large quantities of beer. During the last fortnight he has been taking iodide of potassium, sarsaparilla, and blue pill for a syphilitic affection of the skin. Early on Monday morning the 13th inst., he was seized with intense pain in the abdomen, and frequent, almost incessant desire to go to the water closet without being able to void anything. He vomited several times during the day, and experienced slight relief from some brandy and water which he had taken, and a large opiate prescribed by a medical gentleman called in to attend him. On Tuesday a very copious and offensive motion was passed, and afforded slight temporary relief. On Wednesday the tenesmus was almost constant; no fecal matter was voided, but occasionally small quantities of a bloody fluid; he vomited two or three times, and in the evening his abdomen began to swell. When admitted to the hospital on the following day he appeared greatly exhausted, in a state of complete prostration; countenance anxious, depressed, and indicative of great suffering. Abdomen painful on pressure being applied, and somewhat tumid. Tenesmus incessant, and very urgent, nothing being passed except a small quantity of bloody fluid; has now no vomiting or sickness; tongue furred in the centre, moist, and rather cleaner at its edges; pulse quick and small. Calomel and opium, opium suppository, and fomentations to the abdomen were prescribed. The same symptoms continued without undergoing any mitigation. In the evening he complained of not having passed any urine. On examining the abdomen a globular swelling was felt at its lower part, which seemed to be the distended bladder, but on introducing a catheter, only about half-an-ounce of urine was removed. During the night he became rapidly worse, and died early the following morning.

Inspection.—Abdomen tumid and tympanitic. On opening it, a considerable quantity of reddish serum and flakes of lymph escaped. The small intestines were glued together by recent lymph, and were much distended by flatus and fluid. The pelvis contained several folds of the ileum, of a dark purple, almost black colour. The whole of this portion was much inflated, softened in texture, and easily torn. In one part was observed a longitudinal laceration, three inches in length, of the serous coat, produced apparently by the distension. Another portion of intestine, which proved to be the sigmoid flexure, was of the same dark colour, thickened in its coats, and also much distended with flatus and a reddish fluid; its mucous membrane was deeply congested, soft in texture, and resembled velvet. That portion of the mesocolon, connected with the sigmoid flexure and involved with it in the stricture, was also deeply congested, and much thickened. On further examination, the intestines were found to be curiously twisted. The base of the sigmoid flexure was encircled and pretty firmly girt by the ileum in the following manner;—tracing the ileum back from its insertion into the cæcum, it passed in front of the sigmoid flexure, then turned round behind it, passing between it and the spine into the pelvis, which contained about five feet, presenting the appearance above described. A finger could be passed from the rectum and descending colon upwards into the sigmoid flexure, also from the cæcum along that portion of the ileum which formed the knot.

The singularity in the mechanism of the obstruction in the above case is such as to render it worthy of notice. Several instances are recorded in which death took place from twisting of the sigmoid flexure upon itself, and in works devoted to this subject numerous other modes are mentioned, in which internal strangula-

tion has been effected. The sudden accession of the symptoms, and their extreme urgency, might lead to a belief in the existence of some mechanical obstruction to the passage of the intestinal contents; and the tenesmus, which formed so prominent a feature in the case, might give rise to a suspicion that the seat of this obstruction was not far from the rectum. Little stress, however, can be laid on either of these circumstances. Ileus of the most violent description may occur and prove fatal, without any mechanical obstacle being detected; whilst the sigmoid flexure, or even the upper part of the rectum, may be twisted without giving rise to tenesmus. The possibility of affording assistance by a surgical operation renders accuracy of diagnosis of extreme importance. That cases occur which admit of relief by section of the abdominal parietes is unquestionable, but until they can be distinguished from others, in which such interference would be worse than useless, the proposition cannot be entertained. In the present state of our knowledge I fear we possess no means of deciding with certainty either the nature or seat of the obstruction, or even if any mechanical obstruction exists at all. The researches of Dr. Barlow, as detailed in a valuable paper on this subject in Guy's Hospital Reports, have certainly done something to elucidate the diagnosis of these obscure and difficult cases, at least as regards the seat of the affection. Should the circumstances pointed out by him be sufficient to enable us to determine the seat of the disease, we have still to decide a most important question—its nature, and if this is such as to admit of removal. With respect to the cause of the singular displacement observed in the present instance, I am unable to offer even a probable conjecture. No malformation of the sigmoid flexure existed, and though the mesentery was necessarily somewhat elongated, this was not unlikely an effect of the dragging induced by the altered state of the parts, nor is it necessary that any previous alteration should exist to enable them to assume so unnatural a position. I have succeeded several times on the dead subject, in effecting an arrangement similar to what has been described. This is readily done on thin flaccid subjects, in whom the mesentery is little loaded with fat, by raising the sigmoid flexure with the left hand and pushing the lowest portion of the ileum behind it into the pelvis with the right. On inflating the portions of intestines above and below the knot, they will be found to maintain their position, and to present, indeed, a perfect *fac simile* of the preparation described. The tympanitic state of the bowels contributed in no slight degree to keep up and increase the strangulation. The constricted appearance of the parts forming the knot, and the intense congestion of those portions of the intestine suffering from its effects indicated the severity of the strangulation, and the utter hopelessness of all remedial means for its relief.—*Ibid.*

22. *Treatment of Dilatation of the Heart.* By O. H. Bellingham, M. D., of Dublin. —As a general rule, the treatment of dilatation is directly the reverse of that of hypertrophy. In the one case, we have evidence of increased nutrition of the heart; in the other, of feeble or diminished nutrition. In the one case we find a strong heart impelling the blood with increased force through the general arterial system; in the other, we have a feeble heart, unable to propel its contents to any distance, and probably incapable of emptying its cavities.

The objects to be held in view in the treatment of dilatation, are—

1st. To remove the cause which occasioned the dilatation, if that be practicable.

2dly. To tranquilize the circulation, and to relieve the heart of the blood which overloads or oppresses it.

3dly. To strengthen the parietes of the heart, by which it will be enabled to expel its contents, and the further progress of the dilatation be opposed.

4thly. To diminish or remove the congestion of the lungs, liver, &c., and the other effects of impeded circulation, without debilitating the patient.

If the dilatation is the result of valvular disease, or if it has followed adhesion of the pericardium, the effect of pericarditis, we can do little more than palliate symptoms; both these pathological conditions being irremediable. On the other hand, if the dilatation is the result of any cause which can be removed; if, for instance, it has followed prolonged muscular exertion, or violent mental emotion, —if it has succeeded to frequent attacks of bronchitis, or occurs in patients de-

bilitated by loss of blood from any cause—if it arises in subjects weakened by previous illness, or comes on in chlorotic and anemic individuals, much benefit may often be derived from treatment, provided the patient is young, the disease not in an advanced stage, and not complicated with attenuation or softening of the parietes of the organ.

In order to tranquilize the circulation and to relieve the heart of the blood which overloads or oppresses it, this organ must be maintained in as complete a state of repose as possible, which is to be accomplished by rest, by avoiding everything likely to excite or agitate the mind, by regulated diet, and by obviating dyspeptic symptoms, which are very common attendants upon this condition of the heart. The food should be nourishing, and but little fluid is to be permitted; at the same time, the secretions are to be maintained in a healthy condition; by these means the amount of blood will be diminished, while its quality will not be deteriorated. Functional derangement of the stomach is common in cases of dilatation, and nothing under such circumstances is more likely to bring on palpitation and add to the distress of the patient, than a full meal or flatulent food; hence, the food should be such as is easily digested, and should be taken in small quantity at a time; and anything which occasions distension of the stomach or flatulence should be carefully avoided. The medicines calculated to relieve the dyspeptic symptoms will vary, of course, according to circumstances; sometimes antacids, at others acids are indicated; carminatives are occasionally serviceable, and the hydrocyanic acid in minute doses is sometimes given with advantage.

In order to strengthen the parietes of the heart, and to enable it to expel its contents, tonics variously combined are indicated; by improving the general health we give tone to the heart, and thus assist in diminishing or retarding the increase of the dilatation. Everything calculated to debilitate the system is to be avoided; hence bleeding, digitalis, and antiphlogistic measures of every description are contra-indicated as a general rule. If digitalis is a dangerous remedy in some of the diseases of the heart which we have been considering, it is still more so in dilatation when at all advanced; or if the parietes of the ventricles are attenuated. Here the palpitation is an effort of nature to assist in relieving the heart of the blood which distends its cavity; if we diminish the increased action by administering digitalis, we take away the only safeguard left; the organ can no longer accommodate itself to the amount of blood which it receives, and the death of the patient may be the result.

In order to diminish or remove congestion of the lungs, liver, &c., and the other effects of impeded circulation, the same measures are indicated as have been alluded to in treating of valvular disease; but here we must be very guarded in the use of measures likely to debilitate the patient, and we must trust rather to diuretics, diaphoretics, and expectorants, than to hydragogue cathartics, or local abstraction of blood, which prove so useful in other forms of heart disease. As the extremities are habitually cold, means should be employed to equalize the temperature, and to determine to the surface, by which congestion of internal organs will be likewise relieved.

In conclusion, it must be borne in mind, that dilatation is a chronic affection, which, in its early stage, and when moderate, produces little inconvenience, and hardly requires treatment, but which, when advanced, is little under the influence of internal remedies; any improvement, consequently, must be slow and gradual, and in many cases we can do little more than palliate symptoms; consequently, the success of our treatment will depend in a great measure upon the patient observing carefully the rules laid down for him; if he lives intemperately, or is obliged to labour for his bread, the disease will run a more rapid course. But "if (as Mr. Burns observes) the patient keeps quiet, submits to a regular, light, and digestible diet, and employs occasionally remedies to relieve the dyspeptic symptoms, it will afford him comfort to know that he may ward off the fatal issue for a considerable length of time, and may even enjoy tolerable health."—*Dublin Med. Press*, Sept. 17th, 1845.

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23. *On the treatment of Diabetes Mellitus.* By G. Owen Rees, M.D.—The treatment of diabetes proposed from time to time has varied greatly in character. It is true that for the most part it has agreed in the one particular, in consisting of means

directed to the stomach; but still some of those remedies considered as the most efficacious have been such as in health greatly tend to the derangement of that organ. Among the most powerful of these may be placed opium, which, in combination with other medicines, is frequently of service in checking symptoms, and has occasionally been known so far to restore the patient as to justify a hope that permanent benefit has been obtained. As regards the stomachic remedies, we find the alkalies and acids have both been fully tried; and the alkaline earth magnesia is still highly prized, as of service in this disease, by many experienced practitioners. Nitric acid has enjoyed an equally high reputation in the hands of others; and I have recently seen apparent advantage derived from the continued use of hydrochloric acid. It has always appeared to me, however, that the cases most benefited by treatment have been those in which no special regard has been paid to a specific remedy, but where general principles have been carried out steadily, and so as to meet every emergency as it arose. The use of opium, though it is always found to diminish the quantity of water excreted, can in no way be regarded as an advisable measure, if it be exhibited in its uncombined state. Large doses become eventually necessary to keep up the effect first produced; and whatever apparent benefit may be observed in the secretion of the kidney, we find the general symptoms of the disease become aggravated, and, moreover, that considerable difficulty is experienced in desisting from the use of the remedy. The Dover's powder is a favourite medicine in this disease, and I have constantly seen the greatest benefit follow its use, and considerable relief afforded to the patient by its bringing about the partial restoration of the function of the skin. In acute cases, when pain is felt in the loins or head, the use of this remedy, combined with the hydrargyrum cum cretâ, in small and divided doses taken during the day, will be found a most valuable means of decreasing action, and with the use of moderate bleedings greatly to assist in affording relief to the drowsiness which forms a distressing symptom in some cases.

In addition to the above remedies, I know of none more applicable in the chronic form of the affection than magnesia taken frequently during the day. Warm bathing at intervals of a day or two is of great assistance; and if we can sufficiently restore the powers of our patient, this may afterwards be replaced by cold sponging or the shower-bath. It is absolutely necessary, however, that the pulse should improve, and the power of undergoing fatigue have increased, before the skin is called upon for this reaction, and the cold bath should always be taken immediately on rising from the bed, when the powers of life are recruited and in full vigour. Among the tonics which have acquired credit in the treatment of diabetes, are several metallic salts; the sulphates of zinc and iron, and the phosphate and lactate of the latter, have been used with benefit. Various vegetable tonics have also at times flattered the practitioner into a belief of their efficacy. Whatever may be the plan adopted, however, one important indication should never be lost sight of, and that is, the constipated state of the bowels almost always observed in this disease.

The importance of attending to this point will at once be obvious, when we remember the emaciation so characteristic of this affection, and the propriety of affording as large a surface as possible of intestine for lacteal absorption, which cannot take place if the intestinal canal be obstructed. As regards the diet best suited to this form of disease, it appears anything but reasonable to subject the stomach to the severe discipline which has been applied by the fashion of the day in prohibiting the use of vegetable food, and restricting the patient to a purely animal diet.

All the benefit derived from this plan of treatment consists in the fact that the profession are now well aware that the diabetic stomach will not convert fibrinous and albuminous ingesta into sugar, but that any advantage has accrued to the patient is greatly a matter of doubt. Several cases, which I have seen do best, have not been so restricted as regards vegetable aliment, but have been fed upon a wholesome mixed, but restricted diet. The patient should be allowed his ordinary food, unless it be of a nature obviously calculated to produce or maintain dyspepsia; the restriction being made in quantity rather than in quality or proportion. As regards drink, not only much good, but agreeable relief from thirst, is to be obtained from the use of seltzer water, the salts contained in it probably exer-

cising an immediate influence on the condition of the blood. Wines, spirits, and beer, should be avoided in the more acute forms of this disease, but they become necessary to maintain power in the more advanced stages.—*Analysis of the Blood and Urine.* 2d ed.

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24. *Headache accompanied with Alkaline Urine.*—Dr. SHEARMAN describes in the *Provincial Medical and Surgical Journal* (Aug. 20th, 1845), a peculiar form of headache which he states is "accompanied with alkaline urine, of the specific gravity of from 1·015 to 0·130, depositing *triple phosphates* and *phosphate of lime;* and a *deficiency of urea.* The headache is described as a dull weary pain, affecting the memory and imagination; there is uneasy sleep, often conjuring up very unusual sensations and ideas. The appetite continues good; bowels regular; tongue clean; pulse quick and often feeble; but a great feeling of debility attends this form of headache.

"I imagine," says Dr. S., "in this disease, there is *just sufficient urea circulating* in the blood to *derange the brain*, which is the *sole cause* of the *headache;* and as soon as the kidneys return to health, and separate the whole of the urea from the blood, *the pain ceases.*

"Instead of giving purgatives, using local bleeding, and blistering the back of the neck, &c., I think the best mode of treating this is to give animal food, good sound porter, light tonics, with nitric and muriatic acid; merely attending to the secretions and excretions, without using any decided alterative course of medicine. I have met with several such cases, which have soon yielded to this simple mode of treatment, and I think this is the class of headaches, cases of which are sometimes quickly cured by tonics and stimulants, prescribed at random, after the failure of an antiphlogistic mode of treatment."

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25. *Action of excessive doses of Mercury on the Pancreas.*—A case is related by Dr. COPLAND which strikingly illustrates the morbid action which mercury, taken in excess, occasionally exercises upon the pancreas, in common with most of the other secernent glands. "A female, 29 years of age, contracted syphilis, for which she was treated by means of corrosive sublimate. Violent ptyalism took place, four pounds of saliva being excreted in the twenty-four hours. As this secretion diminished, diarrhœa appeared and increased. Soon afterwards, the patient complained of anxiety and heat, with a fixed, obtuse, and deep-seated pain at the epigastrium; loss of appetite, nausea, tension of the abdomen; of great thirst and dryness of the throat, and rapid pulse. These symptoms were aggravated when the stomach was full. During five days some amelioration was remarked, but bilious vomiting supervened, and the pain and diarrhœa increased. The frequency of the calls to stool became remarkably great; a watery yellowish fluid, resembling saliva, being voided. The deep-seated pain above the umbilicus prevented the patient from lying on her back and left side, and was increased by a full inspiration. Some days of relief followed, after which a violent increase of fever appeared, with a return of the diarrhœa, an acute pain at the epigastrium, and orthopnœa. Blood-letting was prescribed. The following morning the parotids were hot and painful; the mouth was burning, the pulse small, and the stools were suppressed. Mercury, camphor and opium were ordered, and leeches, blisters, &c., to the parotids. Towards evening, the breathing became stertorous, the anxiety extreme, the pulse thready and intermittent, the extremities cold, and the face hippocratic. She expired in the night. The pancreas was found red, swollen, and somewhat more consistent than natural. It weighed eight ounces; and the blood ran freely from it upon dividing it. The duct was dilated. The parotids were also inflamed." We apprehend that practitioners generally have failed to observe the probable dependence of the diarrhœa of children in whom mercury has been given to excess, in part to a disordered state of the pancreas and its secretion.—*Dictionary of Practical Medicine.*

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26. *Danger of Mercury in Bright's Disease.*—Mr. HARRISON presented to the Reading Pathological Society, the kidneys of a female in the middle period of life, atrophied to the last stage of Bright's disease. The urine in the bladder was one mass of albumen. For the last ten months she had been complaining of a

variety of severe symptoms: pains in several parts of the body, with ascites, and an extreme feeling of depression; the skin resembled ichthyosis; there was dullness over the right lung; the liver very much enlarged; urine scanty, but not tested at this time. The liver was supposed to be the organ most grievously at fault. An inunction of about a drachm and a half of mercurial ointment produced the most violent salivation, followed by sloughing of the cheeks and exfoliation of the jaw with the teeth. After some weeks, hæmoptysis, with diarrhœa of bloody stools, set in under which she sank.—*Mr. S. L. Walford's Retrospective Address; Prov. Med. and Surg. Journ.*, Sept. 24, 1845.

[Remarks.—The above is an impressive addition to a long list of instances in which the administration of mercury to persons suffering from renal disease, has been followed by salivation of the most uncontrollable and formidable kind. Too much stress cannot be laid upon the injunction of invariably testing the urine for albumen, and taking its specific gravity, previously to submitting any patient to a mercurial course, and of repeating this examination, from time to time, during the progress of this plan of treatment. In no case of chronic visceral disease can even a single dose of any mercurial preparation be safely given, unless this examination has been previously made.—*Lond. Med. Gaz.*, Nov. 1845.]

27. *Modification of Small-Pox by Vaccination.*—The following case, from a late No. of the *Archives Générales de Méd.*, is interesting, but we can hardly conceive that the conclusions are entirely justified by this single case.

A boy, aged 18 years, was taken into La Charité on the 17th of September last, with fever of so acute a character that he was bled from the arm on the 18th. On the morning of the 20th, there made their appearance the first signs of small-pox, and on inquiry it was found that the boy had never been vaccinated. On learning this, Dr. Flandin tried the experiment of vaccinating him, but aware of the late period at which the trial was permitted, sought to quicken the energy of the inoculation by making, as Eichern suggests, twelve or fifteen punctures in each arm; the matter he used had been preserved dry, in the usual way, between bits of glass.

The next day (21st) the second of the cutaneous eruption, there appeared a great number of variolous pustules spread all over the body, principally, however, on the face; they were not confluent, and the attending fever was very moderate. Nothing could be perceived where the punctures had been made on the arms, except on the right, three or four very slight traces of the pricks, but without elevation or redness.

The variolous eruption followed its course without accident, and went through its stages very quickly. There was neither secondary fever, nor tumefaction of the face or extremities, and on the seventh or eighth day the eruption was desquamating. At this period (29th of September, and tenth day of the eruption), the marks of the inoculation had not in the least changed their appearance or made the slightest progress, and we now thought no more of them, and ceased to examine his arms; the desquamation went on regularly, and the papulous form and rising tendency of the cicatrices struck us as the last character of a modified variola, when, on the morning of the 5th of October, at the early visit, the patient mentioned that for the five preceding days he had forgotten to recall our attention to where he had been inoculated, as he thought it had taken;—what was our surprise, on uncovering the right arm, to find at the place where the marks of the lancet were still visible, four vaccine pustules already almost dried up! there could be no mistake about it; in the midst of the little white, prominent cicatrices left by the variolous eruption, were seen four pustules of the usual size, some covered with a thick brown crust, others with a matter dry in part and partly liquid, surrounded by a very narrow areola, of a bright red colour, and without the vaccinal tumour;—it is impossible not to recognize in these characters a modified form of vaccine infection. We have here, then, vaccination performed after the appearance of the variolous eruption, which had assumed a modified character,—the vaccine eruption not appearing until the variolous eruption had desquamated, and like it also modified in character; we have also observed the beneficial influence exerted by vaccination on the first eruption, although the regular appearances, induced by vaccine matter, had not been developed, and the affection had run a course so unusually rapid, as if, in fact, it had proceeded for some time

latent, and only showed itself in its later stages; looking, on the sixth day of its appearance, as the part usually does on the fifteenth or sixteenth day after inoculation. Struck with these facts, the question naturally occurred to me—Can vaccination, *not followed by its eruption*, exert a preservative power against small-pox? and I asked M. Rayer his opinion. Facts seemed to decide here, with this condition, however, that although its appearance may be more or less delayed, yet that when it does show itself it shall have some of the regular characters of the affection in its progress. I greatly regret not having seen the vaccine pustules in this case from their very first appearance, and blame myself for not attending better to the patient's arms, although, fortunately, the great point has not been weakened by my neglect. M. Rayer, whose testimony would in itself be sufficient, corroborates all I have stated.

We may come boldly, then, to this practical conclusion—that, *among individuals not vaccinated, vaccine inoculation is proper, and can be useful when practised, not only during the primary fever of the small-pox, but even soon after its eruption has made its appearance.*

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28. *On the Occupations of those who are most exposed to Metallic Colic.*—M. CHEVALLIER gives the following table of 1330 cases received into the Parisian hospitals for five years, (1838 to 1842,) showing the relative liability of workmen of different trades to colica pictonum.

Workers in white lead	841
Painters	310
Type manufacturers	33
Colour preparers	29
Workers in metals	22
Pottery manufacturers	11
Casters	6
Gilders	4
Polishers	4
Glassmakers	3
Varnishers	2
Jewellers	2
Enamelers	2
Chasers	1
Turners	1
Chemical manufacturers	1
Lapidaries	1

Among 57 journeymen the occupations were not ascertained. In addition to the above, Weavers are subject to lead colic, from the circumstance that they are compelled to handle the leaden cylinders which are used for stretching the threads.

The table shows that white lead workers are most exposed to this disease. The 341 cases came from six factories in the short period of only five years, and of these 55 proved fatal. It is impossible to institute a fair comparison with respect to other occupations, since the number of workers thus employed is unknown. It will be observed that the workers in metals chiefly of copper and its alloys, or of lead in the metallic state, are but little subject to metallic colic. In fact, during a period of five years, only 22 were received into the Parisian hospitals, although the number of workmen employed in this occupation is very large. It will be perceived that the workers in other trades are very little subject to the disease.—*Gazette Méd. de Paris*, Jan. 17th, 1846.

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29. *Colic from Copper among the Workers in that Metal.*—M. BLANDET has written a memoir on this subject, wherein he proposes to demonstrate that there exists a colic occasioned by copper—a malady to which those who work in that metal are liable, as the workers in lead are to lead colic.

The author rectifies the mistake which has led to the belief that the colic suffered by the workers in copper, arises not from the effects of the copper, but from the lead which is also used; an error which has caused the two diseases to be con-

founded, and led to the idea that the copper has no injurious effect in these instances, whereas it is really highly deleterious. From Dr. Blandet's observations, made both in the hospitals and in the workshops, he has become convinced of the existence of a form of enteritis produced by copper, of which the chief symptom is a colic, with remissions. The workman bends himself double to relieve it; the belly is tender upon pressure; there are headache, and inclination to vomit; diarrhœa or constipation; the vomited matters consist of a bilious fluid; the first alvine evacuations are often of a green colour; fever is frequent, but there is often lassitude. The affection, says M. Blandet, arises from two principal causes—slovenliness, and the inhaling of copper dust. The workers in copper, who are careless of their persons, have their hair coloured green; the perspiration is green, and the teeth are coated with a crust of sulphuret of copper. M. Blandet recommends certain prophylactic and therapeutic measures, of which the principal are, the use of albuminous drinks, and the administration of saline purgatives to prevent constipation. M. Blandet has also made a second observation relative to the accidents occasioned by zinc among the founders and moulders of copper. The symptoms produced by the vapour of zinc, are, a sensation of weight at the stomach, nausea, oppression, pains in the head, aches in the limbs, as if from the effects of bruises, &c. It is especially the fumes of brass which produce these accidents; thay have not been found to arise from copper alone, but they must be attributed to the admixture of that metal with zinc. Among the symptoms complained of by the workmen, are, a painful weight at the stomach, inclination to vomit, want of appetite, cough, oppression, occasional fixed and oppressive pain in the head, buzzing in the ears, which continues during the night; general debility; tetanic stiffness, and pain in the limbs; shivering; cold trembling, which continues several hours; nightmare during sleep; the patient experiences a feeling of distension, and there are cold sweats preceded by hot fits, &c.—*Lond. Med. Gaz.*, Aug. 22, from *Gazette Médicale de Paris*, 1845.

30. *Strychnine in Chorea*.—Dr. A. Ross, reasoning on the supposed state of the brain and nervous system in chorea, on the frequent want of success attending the usual mode of treatment of the disease, and on the well-known effects of strychnia on the nervous system, was induced to make trial of this remedy in a few cases which came under his care, and in which the usual mode of treatment, by aperients, tonics, &c., had been unsuccessful.

"The first occasion on which I made trial," he says, "of the remedy in this disease, was in the beginning of 1839, in the case of a delicate girl of twelve or thirteen years of age, who came under my care as an hospital patient, with many of the eccentric symptoms of this singular disease most distinctly marked. From having been very expert with her needle, she was rendered incapable of using it, and her attempts to thread it were almost ludicrous. I prescribed for her the eighth or tenth of a grain of the alkaloid, to be taken twice a day. On the second or third day of the treatment, through a mistake of the nurse, she had an overdose of the medicine, which produced more violent effects than I intended—viz., convulsive twitches, which, however, quickly subsided, on the medicine being intermitted, and with them all symptoms of the disease. In a day or two after this I saw her thread a fine needle with a hand perfectly steady, and she was dismissed cured at the end of a week. I saw her more than a year afterwards; she was quite well, much improved in appearance, considerably grown, and had had no return of chorea. I ought to mention that she first came under my care after having been already some weeks in the hospital, under the care of my esteemed predecessor, Dr. Bayne, whose treatment of her was continued, without any improvement in her symptoms, until she commenced the use of the strychnia.

"My next case was a girl of the same age and constitution, who came under my care as an hospital patient, about the same period. In her case I adopted the same treatment. No violent effects were produced by the remedy, and after a few days' treatment the symptoms of chorea began gradually to disappear, and she was also dismissed cured at the end of a fortnight."—*Lancet*, June 7, 1845.

[Dr. Griscom of New York, has reported a case of chorea cured by strychnine.]

31. *On Constipation from Indolence of the Bowels, and its Treatment*.—Dr. Teissier,

assistant-physican to the Hôtel Dieu, at Lyons, has published, in the last number of the *Journal de Médecine* of that town, an interesting article on the treatment of constipation from indolence of the bowels. This form is undoubtedly the one most frequently met with in practice. It is a frequent cause of ailments, which, when misunderstood, in the end seriously affect the health. The disease is very frequently met with among persons advanced in age, and among the hypochondriacal, in females, particularly those affected with chlorosis, or disease of the uterus; in individuals who do not take sufficient exercise, and in those who devote themselves especially to literature. It accompanies almost invariably all serious affections of the nervous system, and, above all, paralysis. Its consequences are, headaches, indigestion, painful hemorrhoidal tumours, displacement of the uterus, sanguineous discharges from that organ, and leucorrhœa, in females, and in extreme cases may lead to marasmus. It is most important, then, to be able to recognize the sort of constipation of which we speak, and, above all, to know the most effectual means to remove it.

The directions given by most authors for this last purpose, are, in general, of little use; sometimes they are even hurtful and dangerous. In fact, the means most frequently recommended are oily enemata, or simple lavements of decoction of mallow, of bran, &c., at the temperature of, at least, from 80° to 86° F.; and later, when these lavements fail to unload the bowels, manna, senna, tamarinds, rhubarb, castor oil, Seidlitz water, scammony, in short, all sorts of laxatives, or even the most drastic purgatives are recommended.

Now it is at present recognized as a fact among all practitioners of experience, that in the sort of constipation here treated of, the use of warm injections is hurtful, because as it depends on a sort of atony, or indolence of the muscular fibres of the bowels, the more you inject warm water into them, the more the muscular fibres are lengthened, distended, softened, and deprived of their contractile power. It is known, also, that the use of purgatives, far from being beneficial in this sort of constipation, is, on the contrary, very prejudicial, inasmuch as they blunt the sensibility of the coats of the bowels, which at length become insensible to the stimulus of the fecal bolus; besides this, their continued use may violently irritate the bowels. But this is not all, for, as Teissier remarks, the authors who most strongly advocate the use of purgatives in this disease, acknowledge also the inconvenience arising from the use of such substances in a great many cases.

Beyond these means, it might truly be said that no resource remains. But science is not so powerless as might at first be supposed; nay, numerous useful means exist, of which the three principal are, nux vomica, cold lavements, and astringents, which Dr. Teissier, on the recommendation of some authors, has employed in several cases, and with apparently happy effects.

Schmidtmann was the first to recommend the use of nux vomica in cases of sluggish digestion, with flatulence, distension of the bowels, and constipation. Teissier cites four cases which show that this substance has been equally successful in his hands under like circumstances. In the first case, a female, the sluggishness of the bowel was caused by the existence of syphilitic excrescences at the anus, with thickening of the rectum in its whole circumference, which for more than a year caused great difficulty in defecation. After the venereal affection was cured, the constipation continued, and resisted all the means used to overcome it. Dr. Teissier having remarked, that the introduction into the anus of tents (mèches) for several successive days, and cold lavements, had in some degree relieved the constipation, was led to think that these means had only acted by rousing the contractile power of the large intestine, and that that end would be more fully attained by administering the nux vomica. He accordingly gave his patient, every morning, in a pill, nearly the fifth of a grain (one centigramme) of the extract of this substance. Under the use of the nux vomica, in this dose, for a fortnight, the constipation entirely disappeared, and a year has now passed without any relapse. From time to time, merely, when the bowels are inclined to become sluggish, the patient takes one of the pills as above, and the next day the usual evacuation takes place. In the second case, the constipation which was of long standing, was complicated with disorder of the stomach, referred to supposed gastritis. The patient was at first put on low diet, gum-water emollient injections, and the white meats, which only increased the sluggishness of

the bowels. Recourse was then had to various other means, which relieved the gastric symptoms, without entirely curing them, but had no effect on the constipation. Dr. Teissier, seeing the little success attending this mode of treatment, had recourse to full diet, and the use of the extract of nux vomica, in the dose of the fifth of a grain, daily. In less than fifteen days the constipation and the other symptoms had almost entirely disappeared, and in less than a month, convalescence was complete. In the two other cases the result was the same. It must not, however, be supposed that the remedy is infallible; the doctor admits that he has seen it fail in the case of nervous individuals suffering from obstinate constipation. He thinks it is particularly indicated in those cases where there is reason to suspect a general want of tone in the bowels, as in the paralytic, or in old persons, or where we may suspect a want of tone of the muscular coat of the intestine, in consequence of great and long-continued distension, or, in short, when the constipation can be referred to an undue secretion of gas, which, of itself, by causing distension of the bowels, diminishes their contractile power.

Injections of cold water, better known than nux vomica, constitute likewise a valuable resource against constipation from want of tone. Of late years they have been much vaunted; but, nevertheless, they are as yet but rarely used in practice. They act somewhat in the same way as the nux vomica in rousing the sensibility and the contractile power of the intestine. Our author does not, however, consider that the two remedies ought to be used indiscriminately under the same circumstances; he thinks the cold injections particularly suitable to individuals of a nervous, highly irritable temperament; to the hypochondriacal, and to females suffering from irritation or engorgement of the womb.

Females who have contracted the pernicious habit of taking a warm enema daily, and who have thus lost the power of evacuating the bowels by the sole efforts of nature, ought to substitute cold for warm water; they would thus more easily attain the end they have in view, and avoid the inconvenience of diminishing more and more every day the contractile force of the muscular fibres of the bowels, and thereby increasing the degree of constipation. In general, cold injections are very harmless and very well borne; they produce, however, in some individuals, an uncomfortable sensation of cold in the bowels and loins, which may continue for an hour or two. Sometimes they produce pain in the bowels, and slight diarrhœa; in this case, all that is required is to discontinue them for a time, and to use them only every third or fourth day, instead of daily. In the case of patients in whom there is little reaction against cold, it is better not to prescribe water at the ordinary temperature at once, but to begin with it at the degree of 68° Fahr., gradually coming down to 64°, 59°, and 53°, till, at length, water of the natural temperature may be used.

Astringent injections are also highly useful, under certain circumstances, in relieving constipation. Bretonneau was the first to establish this new and important fact, which has been again brought forward by Trousseau and Pidoux, in their "Treatise on Therapeutics," but without its having been as yet generally adopted in practice. One can readily imagine the reluctance some medical men have to recommend, in constipation, injections containing the substances they are in the habit of prescribing in diarrhœa—such as catechu, krameria, alum, &c. But if we reflected, that in persons who have long suffered from constipation, particularly females, the rectum forms above the sphincter a pouch, sometimes of considerable size, in consequence of the distension from accumulated feces, to which the coats of the bowels have been subjected, we should be less surprised that the idea has occurred to have recourse to the injection into the rectum of tonic and astringent substances, with the view of causing corrugation of the muscular fibres of the bowels, which, by corrugating, become shorter, and thus diminish the enlargement of the cul-de-sac now spoken of.

Astringent injections are particularly suitable in cases where there is reason to suspect an abnormal dilatation of the lower portion of the rectum; for instance, in constipation from the presence of a mechanical obstacle at the anus, caused by hemorrhoidal tumours, swellings of a venereal or cancerous character, or contraction of the sphincter with or without fissure. These injections are, moreover, suitable, for the same reason, to females in whom constipation exists, along with engorgement or retroversion of the uterus, and to all those persons who, having

their bowels relieved only once in eight or ten days, void, after painful efforts, which can be compared to nothing but a sort of parturition, an enormous mass of hardened and dry feces. In all these cases, it is of consequence to rouse the tonic action of the muscular bands of the large intestine, and this indication is well fulfilled by astringent injections.

The ingredients of these injections may be infinitely varied; they may be composed of red roses, krameria, oak bark, bistorta, catechu, alum, &c. The following is Teissier's mode of proceeding:—He begins with the simple infusion of roses, cold, and at the end of a few days, he adds to each injection from fifteen to thirty grains of the extract of rhatany. He thinks that in obstinate cases a minute portion of the extract of nux vomica—one-seventh or two-sevenths of a grain, for instance—might be added, with advantage, to each enema. He considers, also, that they should measure ten or twelve ounces, so that they may not be retained many minutes; that their action may be of short duration, and that the muscular fibres of the bowels may be allowed readily to contract themselves. The nux vomica, the cold, and the astringent injections, are not certainly the only means at the disposal of the practitioner in the constipation we are now treating of; but they are those of which our author has had most experience, and from which he has derived most success. We must not forget here the means proposed lately by Fleury—viz., the introduction of tents into the rectum, which, acting as a foreign body, stimulate the bowel by their contact, and rouse its contractile power; nor the shampooing of the rectum, proposed by Récamier; nor, lastly, inspissated ox-gall.

To all these means must be added, as auxiliaries, drinks, composed of vegetable bitters, a tonic diet, the use of black meats, Bordeaux wine, active exercise in the open air, &c. These are useful auxiliaries, much more beneficial certainly than the use of white meats, (veal and chicken,) relaxing vegetables, such as sorrel, spinach, chiccory, cooling lemonades, juice of prunes, bouillon aux herbes, &c.—*Lancet*, Dec. 13, 1845.

SURGICAL PATHOLOGY AND THERAPEUTICS AND OPERATIVE SURGERY.

32. *Effects of Obliteration of the Carotid Arteries upon the Cerebral Circulation.*—The *London Medical Gazette* (October, 1845), contains an elaborate paper on this subject by Dr. Norman Chevers, which is so interesting, especially in connection with the case of Dr. Warren in our present number, that we shall transfer the greater portion of it to our pages.

Dr. Chevers, after presenting a brief history of the experiments which have been tried of tying the carotid arteries in the lower animals, gives the following summary of the cases in which the carotid artery has been obliterated in the human subject.

1st. *Effects of obliteration of both primitive carotid arteries in the human subject.*—I find five cases upon record in which, either by surgical operation or in consequence of disease, both of the primitive carotid trunks became obliterated at different periods, and the individuals survived without suffering in any very remarkable degree from cerebral disorder. A brief sketch of the leading features of these cases will not be out of place.

(1.) Dr. R. O. Mussey tied both primitive carotid arteries, at an interval of twelve days, in a man twenty years of age. These operations were performed for the cure of a vascular tumour of the scalp which had existed since infancy; they, however, failed, and the tumour was removed by incision; it is mentioned that the left temporal artery and vein appeared to be $\frac{3}{8}$th of an inch in diameter; more than twenty arteries, none of which seemed to be less than a middle-sized goose-quill, were observed running into the tumour. The patient recovered from the operations without any bad symptoms; the functions of the brain were not interfered with.

Eight years after his first report of this case, Dr. Mussey writes, that ever since his patient's recovery "he has enjoyed very good health; occasionally he has had symptoms of cerebral plethora, indicated by pain, or a sense of fullness in the

head, and a congestion of the vessels of the conjunctiva, from which important relief or a speedy cure has been gained by a single bleeding." During the whole time he has acted as a hired labourer in the author's family.*

(2 and 3.) In the sixth volume of the Calcutta Transactions, Mr. J. R. Preston, of the East India Company's service, relates that he applied first a ligature to the right common carotid artery; and then, about five weeks afterwards, one to the left;—in a case of cephalæa and partial palsy; and further states, that he performed the same twofold ligature at an interval of eleven weeks, in a case of epilepsy and hemiplegia, yet without rendering the patient worse in either. Nay, Mr. Preston maintains that, but for this operation, his patients must have been either worse, or probably have been cut off by their respective diseases.†

(4.) A child, four years and a half old, of scrofulous temperament, was operated upon by Professor Moller, of Copenhagen, who, on the 13th of September, 1831, tied one common carotid artery; and on the 28th of January, 1832, secured the other. The operation was successful.‡

(5.) But perhaps the most interesting and important example upon record of obstruction of the vessels supplying the brain, is one related by Dr. Davy. The subject of this case was an officer of rank, about 55 years of age, who first began to suffer in health, after an attack considered to be rheumatic, in 1831. In September, 1835, he was taken suddenly ill, with a tendency to syncope and vertigo frequently recurring; but, after this, his general health grew better; he experienced vertigo seldom, and syncope never. It was now observed that he had no pulse at either wrist, or in the brachials. His disease was now clearly perceived to be aneurism of the arch of the aorta, with an obstructed state, it might be inferred, of the great vessels arising from it, for no pulse could be felt anywhere in the course of those vessels, either in the neck, temples, axillæ, or wrists. This gentleman expired suddenly, while traveling on the 11th of January, 1837. Upon examination of the body, the aorta was found ruptured, near its base, within the pericardium. The arch of the aorta was the seat of a large aneurism filled with coagulum. All the great vessels arising from the arch were completely closed up at their origins. The upper portion of the innominata was open; the right carotid and subclavian were also open, but rather diminished in size; the left carotid,

* Amer. Jour. of Med. Sciences, vol. v. p. 316, Feb., 1830, and Ib. for Dec. 1837.

† Trans. of Med. and Phys. Society of Calcutta, vol. vi. p. 394, and Edinburgh Med. and Surg. Journal, xliii. p. 483.

Extraordinary as the practice adopted by Mr. Preston in the above cases may appear to be, the plan upon which he seems to have acted has been not unfrequently pursued by others. Dr. Caleb Parry practised compression of the carotid arteries in mania, headache, vertigo, convulsions, and hysterical complaints, (Duncan's Medical Commentaries, vol. xiii. p. 423;) and in 1812, Dr. Chisholm detailed at the Royal Society, a case in which he considered that he had relieved a nervous and mental disorder by this means, (New Med. and Phys. Journal, vol. iv. p. 348.) Dr. Blaud employed compression of the carotids with success in two cases of coma from congestion of the brain in children. In the first of these cases twenty-five seconds was the longest period during which the pressure was maintained; in the second, thirty seconds. (Med. Chir. Quarterly Journal, vol. i. p. 498.) Dr. Dechang has recently succeeded in relieving several patients suffering from neuralgia by these means (Ann. de la Soc. de Méd. d'Anvers, May, 1845). Compression of these vessels has been thought efficacious in some cases of epilepsy. In 1837, Dr. Allier stated that, acting upon the knowledge of this fact, he, in a case of hydrophobia, compressed these two arteries simultaneously at the commencement of a convulsive paroxysm. In an instant the convulsions ceased, and the patient fell into a kind of fainting fit. Alarmed at this, the family refused to allow the doctor the methodical employment of this powerful treatment. (Clinique des Hôpitaux des Enfans, and Méd. Chir. Rev., vol. Jan. 1844, p. 265.) M. Stroehlin has employed this plan in cases of hysteric convulsion, and states, that he has almost always succeeded in modifying the form of the attack. He has also been equally successful in two cases of epilepsy. (American Journal Med. Sci., Jan. 1842, p. 218.) Of whatever value these parts may be in a therapeutic point of veiw, they are physiologically important, in proving that, (1) obstruction of these vessels has a powerful effect upon the brain, and (2) that in compressing the arteries, there is not produced sufficient impediment in the internal jugular veins to occasion dangerous cerebral congestion.

‡ Froriep's Notizen, vol. xxxvi.

subclavian, and vertebral arteries, as far as they were examined, namely, to the extent of two inches, were impervious, being plugged up with lymph. The intercostal arteries were observed to be large.*

In this extraordinary case, it will be observed that the individual survived for at least fifteen months, with a far greater degree of obstruction to the vessels supplying the brain than was produced in the animals in which Sir Astley Cooper secured the two vertebral and the two carotid arteries—the experimenter probably conceiving that this was the greatest amount of obstruction in which nature could be expected to restore the circulation by collateral channels. But, in this case, it is evident that nearly the whole supply of blood to the upper extremities and the head must have been conveyed by the slender vessels anastomosing with the intercostal branches, and by the epigastric and internal mammary arteries.

Dr. Davy relates another somewhat similar case,† but the details are unfortunately imperfect. A soldier, ætat. 36, suffered from paroxysms of dyspnœa, during which he experienced temporary loss of vision, and also occasionally from syncope. There was no pulsation in the left carotid, and very little in the right. Upon examination of the body post-mortem, the aorta was found dilated and diseased; the left carotid and subclavian arteries were completely obstructed by dense white matter, probably altered fibrin, but the state of the innominata and right subclavian was not noticed.

Dr. Baillie has related a case in which one of the carotid arteries had become entirely obstructed, the other being considerably lessened in size, without producing any apparent ill effects.‡

I find only one unexceptional case in which interruption of the circulation through both carotid arteries produced fatal cerebral symptoms.§

Mr. Key tied the right carotid artery in a woman, ætat. 61, suffering from aneurism of the arteria innominata. In about an hour and a half after the operation, she appeared asleep, the breathing being natural, only that it was attended by a kind of snore, which was habitual to her; but this gradually became fainter. In about two hours she was found to be expiring, and in a few seconds died—four hours after the operation. It was found, upon examination, that the left carotid opened from the arch of the aorta by an orifice scarcely large enough to admit a small probe; it was scarcely one-tenth of its natural size, a membrane appearing to have formed across it. The vertebrals were rather small than otherwise. The brain was healthy, its vessels sound, and containing the ordinary quantity of blood; there was a little serous effusion between the membranes.‖

In the following case the operations were succeeded by cerebral symptoms.

Professor Kuhl, of Leipsic, tied the *left* common carotid artery in a robust man, ætat. 53, for the cure of a very extensive aneurismal disease of the scalp, the result of a severe blow on the occiput received twenty-five years previously; the disease appearing to proceed from the left occipital artery and its ramifications. The patient was seized with convulsions and faintings during the operation, and was removed to his bed in a state of insensibility. Towards evening, he complained of repeated throbbings of greater or less violence in the artery which had been tied. Profuse hemorrhage from the tumour rendered it necessary to secure the *right* common carotid on the forty-first day. During this operation (which had the immediate effect of stopping the hemorrhage) the patient was affected with slight convulsions. Immediately afterwards, his face became pale and his tongue cold;

* Researches Pathological and Anatomical, vol. i. p. 426. † Ibid., p. 433.

‡ Trans. of a Society for the Encouragement of Med. and Chirurg. Knowledge.

§ Med. Gazette, vol. vi. p. 703.

‖ It is to be regretted that, in the account of the following case, (as quoted in the Gazette Médicale,) the cause of death is not mentioned; it was probably the same as in the last case, but this cannot be at all confidently assumed. M. Rossi applied ligatures simultaneously to the subclavian and right primitive carotid arteries, for aneurism of the innominata. The patient lived six days after the operation.

It was found that the left carotid and right vertebral arteries were obliterated; so that for six days the brain was supplied only by the vertebral on the left side. (Gazette Médicale de Paris, Jan. 27th, 1844. From Bulletino delle Scienze Med.)

In this case, however, the impervious state of the vertebral artery, in addition to the obliteration of the carotids, rendered cerebral lesion almost inevitable.

none of the functions of the senses were at all impaired. During the night the patient enjoyed tranquil sleep, which was only once or twice interrupted by a convulsive movement of the right arm. On the following day, many of the symptoms were relieved, but he complained of a distressing spasmodic motion in his right arm; and at the same time of a heaviness in his head, and a difficulty in swallowing. With the exception of pain and heaviness in the head, and indistinctness of vision, the patient did not suffer any further from cerebral symptoms. His recovery was long delayed by hemorrhages and suppuration; but, at the end of the fifteenth week after the second operation, he was reported as perfectly restored to health and strength.—*Med. Gaz.*, vol. xvi. p. 86.

It will be observed that, in Dr. Mussey's case, the extraordinary varicose state of the arteries of the scalp had existed from infancy, and, it is probable, that in this man the collateral supply to the brain had become unusually large, the carotids being chiefly employed in supplying the tumour; thus placing the individual's carotid circulation nearly in the physiological condition of that of one of the lower animals, alluded to above. This case, therefore, if standing alone, could not have much weight in support of the operation of tying both carotid arteries. Professor Moller's operation was performed upon a very young subject, where the power of nature in adopting the collateral circulation to its increased duties was probably greater than it generally would be in the adult: the interval, too, between the two operations, was long, more than four months. It is probable that, in Dr. Davy's cases, the obliteration of the vessels occurred very gradually. Still, in both of these instances, cerebral symptoms were present, although not in an extreme degree; in Professor Kuhl's patient, these symptoms were of a far more dangerous character. It is to be regretted that the ultimate issue of Mr. Preston's cases has not been recorded. Upon the whole, I cannot think that when all of the above cases, successful and unsuccessful, are considered together, they at all establish the safety of tying both carotid arteries, even when a considerable interval is allowed to elapse between the two operations. Still they, of course, do prove that individuals may survive the obliteration of both vessels.

Altogether it would probably be well to consider this operation as a measure of extreme danger, the result of which is nearly not absolutely hopeless, and to decide that it is one which should never be had recourse to except in cases of the most imminent peril.

I have already shown that we are justified in denying the correctness of the conclusion, that, in the human subject, the carotids may be safely tied one after the other, if a sufficient interval be allowed between each operation, so long as that conclusion is derived solely from experiments upon the lower animals; such a deduction can only be correctly drawn from observing the results of this operation in man.

That the application of ligatures to both common carotids simultaneously is not of necessity *instantly* fatal, is proved by the following cases:—

In a patient suffering from a bronchocele, supposed by Professor Langenbeck to be of a rare variety which he terms "aneurismatic bronchocele," hemorrhage occurred so profusely that the Professor found it necessary to apply ligatures to the common carotid on both sides. The patient died on the following day. On examination of the body, the right hemisphere of the brain was found resting on a bed of exuded matter; the vessels were not unusually full on this side, but they were so on the left side, where no exudation existed. The internal surface of the carotid was found inflamed from its origin all the way to the brain.*

With a view to arrest the growth of a large tumour occupying the situation of the parotid gland, Professor Mott tied both carotid arteries nearly simultaneously. The patient survived about twenty-four hours.

At present we have not any grounds for believing that a human being can recover from the effects of *sudden* obliteration of both carotid arteries; and, as we have already seen, the results of this operation upon the lower animals cannot be received as favouring the probability of such survival.†

* London Medical and Surgical Journal, August, 1828, p. 178, from Neue Biblioth. für die Chirurg. u. Ophth.

† "Although," says Mr. Crosse, "some animals will bear a ligature to both carotids

2d. *Effects upon the cerebral circulation of obliteration of one common carotid artery, in the human subject.*—It is true that the larger proportion of the individuals in whom one of these arteries becomes occluded, whether by surgical operation, or in consequence of disease, recover without appearing to suffer from any very serious derangement of the cerebral functions; and this fact has justified surgeons in securing the artery whenever the danger of fatal mischief appears to call for such an operation; but, on the other hand, it is to be observed, that a certain, and by no means inconsiderable number of those in whom the circulation through one of these arteries is permanently interrupted, perish from disease of the brain, which disease is evidently the direct result of the alteration thus produced in the cerebral circulation.

I find *fourteen* instances in which obliteration of one of the carotid arteries was distinctly followed by great interference with the circulation through the brain; which in *eleven* of the cases produced fatal results. These cases taken together, have so important a bearing upon practice, that I shall not hesitate to give a brief account of the particulars of each.

(1.) The first case which I shall detail occurred within my own observation, rather more than a twelvemonth since. A strong-looking, middle-aged man, a stone-mason, was suddenly seized with hemiplegia of the *right* side, about six weeks previously to his death. He sank gradually, and died with typhoid symptoms. Upon examination of the brain, there was found ramollissement, with considerable starry injection, of the cortical substance of nearly the whole *left* centrum ovale and corpus striatum. There were no traces of apoplectic effusion. The arteries of the brain, especially on the side occupied by the softening, were much dilated, and considerably diseased.† The heart was large and flabby, and its cavities were somewhat dilated. The whole arch of the aorta was immensely dilated. The orifice of the *left* carotid artery was nearly obliterated from great and equal tumefaction of its inner coats. A probe could, with difficulty, be passed from the artery above into the aorta; but as the instrument carried a portion of old adherent fibrinous clot before it, it was evident that the vessel had become perfectly impervious to blood. The primitive trunk, up to the point of its division, was completely filled with adherent friable coagulum of long standing.

(2.) Dr. Todd has given the particulars of the case of a gentleman, ætat. 37, who was suddenly attacked with syncope, followed by symptoms of a severe internal thoracic lesion. Seventy-two hours after the commencement of the attack, Dr. Todd found the patient lying on his back, heavy and drowsy, and occasionally snoring slightly, with all the aspect of a man labouring under the effects of an oppressed or sluggish state of the brain; his mental faculties were also sluggish; the pupils were inactive, the *right* perceptibly larger than the left. There was paralysis of the *left* side of the face, and of the *left* upper and lower extremity, but there was an involuntary twitching of the arm and shoulder, like subsultus tendinum; the sensation of the palsied parts was not affected. The paralysis must have come on very shortly before this report was made, as it was not present a few hours previously. The paralysis became slightly diminished a short time before his death, which occurred suddenly on the eleventh day Upon inspection, the *right* side of the brain was found decidedly paler in all its structures, than the left; the vessels of the circle of Willis were pale and empty, especially the right carotid and its branches; there were numerous patches of white softening in the

simultaneously, the human frame cannot sustain so great and so sudden an interruption to the supply of blood to the sensorium."

Mr. Crosse met with a case showing the fatal tendency of a ligature if applied to both of these arteries simultaneously. (Trans. of the Prov. Med. and Sur. Association, vol. v. pp. 66–7.)

† Similar dilatation of the arteries of the circle of Willis, on the diseased side, was observed in a man who died from apoplexy of the *left* hemisphere; the *left* carotid having been tied twenty years previously, (Guy's Hospital Reports, vol. i. p. 53.) This state of the cerebral vessels of course results from the greater part of the supply of blood to the carotid on that side being conveyed by them; its existence, in such cases, is an evidence that the ordinary course of the circulation through the carotid has long been obstructed. It can scarcely fail to be followed, sooner or later, by apoplectic or other severe lesions in that part of the encephalon.

centrum ovale and other portions of the cerebral substance on this side, the parts chiefly involved being especially those supplied by the middle cerebral artery. Death had ensued from the bursting of a dissecting aneurism of the ascending aorta into the pericardium. The *arteria innominata* and the *right* carotid artery had become completely obstructed by the blood from the aneurismal sac, which had insinuated itself between their coats.*

(3.) Dr. O. Fairfax relates a case in which hemiplegia of the *right* side occurred after tying the *left* common carotid artery. Dr. Fairfax considered that the paralysis probably took place at the moment of tying the ligature, but it was not remarked until an hour afterwards. The body was not examined.†

(4.) Professor Sedillot tied the common carotid artery to arrest hemorrhage in a man wounded behind the *right* ramus of the lower jaw. Three hours afterwards the patient was found in a state of complete hemiplegia of the *left* side of the body and *right* side of the face. The intelligence of the patient was so far destroyed that he scarcely comprehended questions addressed to him. He died on the ninth day after the operation. The vessels were injected previous to opening the body. The arteries distributed to the right, middle, and anterior lobes of the brain, were much less injected than those on the left side. These same lobes were also appreciably softer than those on the left side, but had apparently undergone no other change. It is remarked, in the account of the case, that the hemiplegic symptoms had, apparently, resulted from that side of the brain having been deprived of its due supply of arterial blood.‡

(5.) The first case in which Mr. Abernethy tied the common carotid artery, in the human subject, was that of a man who was gored in the neck by a cow, and had the *left* internal carotid artery wounded. The patient seemed to be doing well for a few hours; but, on the same night, he became unquiet, feverish, and delirious, and was several times affected with convulsions, which were more violent on the left side than on the right. Soon afterwards the *right* side of the body was observed to be motionless, while the left continued to be affected with convulsive tremors. His strength gradually declined, and he died about thirty hours from the time of the operation, after a severe convulsive fit. The pia mater was injected; there was serum between the pia mater and the arachnoid. The brain presented marks of inflammation; its vessels were full, but not turgid.§

(6.) A case is related by Mr. Girdwood, and quoted by Mr. Miller,‖ where the *right* carotid artery was tied in a woman ætat. 42, the subject of aneurism by anastomosis of the face. The operation was followed by a thrilling sensation in the tumour, with severe headache. On the second day after the operation, the patient got drunk with whisky; this excess was followed by paralysis of the *left* side. Death took place eight days after the operation. The account of the autopsy is admitted not to be very precise, no notes of the appearances having been made at the time: it is, however, stated that there was extensive organic lesion, chiefly of old standing, in the brain. It is very possible that, in this case, there may have been disease of the brain of ancient date, although it is not mentioned that there had been observed, previously to the operation, any of those symptoms which would be expected to attend extensive lesion of that description; but it is perfectly evident that the changes in the brain which proved fatal were immediately determined by the operation, although promoted by the subsequent excess. The time at which the hemiplegia occurred, and the fact that the side of the

* Medico-Chirurgical Transactions, vol. xxvii. p. 301.

† Dublin Journal, vol. xxiv. p. 522.

‡ Gazette Médicale, Sept. 3d, 1842, and Edinb. Med. and Surg. Journ, vol. 59, p. 221.

§ Surgical Observations, p. 193. London, 1804. Mr. S. Cooper has remarked that this case fell under his own notice, and the inference which he drew was, that "the man died more from the great quantity of blood which he lost, and the severe mischief done to the parts in the neck, than from any effect of the ligature of the artery on the brain." Such was certainly not the opinion of Mr. Abernethy:—the single fact of this man being attacked with hemiplegia of the side opposite to that upon which the carotid was tied, within a few hours of the operation, is, I apprehend, alone sufficient evidence to prove that the cerebral mischief was principally due to interference with the carotid circulation, however much the other injuries received may have tended to hasten the catastrophe.

‖ London and Edinburgh Month. Journ. of Med. Science, Jan. 1st, 1842, p. 11.

brain principally affected corresponded with the vessel which was tied, render it fair to conclude that the closure of the artery and the paralysis bore to each other the relation of cause and effect.*

(7.) In a case recorded in Rust's Journal,† the *right* common carotid artery was tied in a man, ætat. 49, suffering from medullary fungus of the palate. Two hours afterwards the patient began to complain of an unusual sensation in the whole of the right side of the head, attended with some difficulty in deglutition. Towards evening, this sensation disappeared, and was replaced by severe pain in the left side of the head. The dysphagia had increased; the face was red; the pulse equally frequent at both wrists, full, and hard. The symptoms continued without much alteration for a week, when, at the morning visit, the surgeon found the patient unable to move the *left* hand and foot. The paralysis continued without modification, and the man sank and died on the 26th day after the operation: the ligature had previously separated. On examining the body, the artery was found free from lesion, but several portions of the *right* hemisphere of the brain, including the centrum ovale, the ventricle, and corpus striatum, were excessively softened. The left hemisphere was free from lesion. The abdominal and thoracic viscera did not present anything worthy of notice.

(8.) Another similar case is reported in the same work. The *right* carotid artery was tied for aneurism of the innominata. Half an hour after the operation, the patient began to feel a sense of lightness in the head, which soon terminated in severe pain, extending across the forehead. Towards evening, the headache increased, the pulsations of the aneurismal tumour became more violent, and a tendency to vomiting manifested itself. During the night the patient continued to vomit, and complained of increased pain in the head. On the third day after the operation symptoms of paralysis appeared in the *left* side of the body, and the patient soon fell into a state resembling that produced by concussion of the brain. He died on the fifth day after the operation. After death, no lesion was discovered which could account for the existence of the paralysis. The viscera of the chest and abdomen presented nothing abnormal.

(9.) M. Magendie applied a ligature to the *left* common carotid of a woman, ætat. 25, who was labouring under an enormous tumour in the site of the left maxillary sinus. No remarkable accident occurred until the sixth day after the operation, when she was attacked with loss of consciousness, which continued for some time; inclination of the head to the left; separation of the eyelids of the *right* eye, the pupil remaining contractile; very slow pulse, with paleness, and respiration sometimes stertorous, sometimes easy, with every mark of approaching dissolution. During the unavailing employment of stimulants and counter-irritants it was observed that the *right* arm was paralyzed, and that, in the right leg, though it was not paralyzed, the motions were deficient in energy and precision. Some difficulty of deglutition, also, which was observed, was found to depend on palsy of the pharynx, and the laryngeal voice was extinct, all her feelings being communicated by signs. Two hours afterwards she was attacked with epileptic paroxysms, in which the head was convulsively thrown back, both arms forcibly contracted, frothy saliva, pupil excessively dilated, and the pulse became very rapid. After this she recovered consciousness, and, on the ninth and tenth days, deglutition became practicable. Some time afterwards the voice returned, and

* Professor Barovero of the Hospital at Turin, tied the *right* carotid artery in a man, the subject of a tumour situated behind the angle of the jaw. The internal jugular vein was tied with the artery; the nerve was untouched. On the third day, the patient had some fever, with spectral delirium, and palsy of the *left* side of the mouth and the *left* hand. Fever, in an abated form, without delirium, continued to the tenth day, after which he began slowly to recover strength; but on the sixtieth day, symptoms of gastric fever occurred, speedily assuming a tertian form; in the course of a few days, loss of sensation and stupor; death on the sixty-ninth day. The brain and vessels were found in a state similar to that of chronic inflammation, and the outer part of the right hemisphere was covered by a fluid similar to a puriform exhalation. (Edinburgh Med. and Surg. Journal, vol. 43, p. 483.) As the jugular vein was tied, in this instance, I have not numbered it with the other cases, and shall not take it into account when referring to them; still, it is too much to the purpose to be altogether omitted from this detail.

† Quoted in the Lancet, for July 28th, 1838.

the right arm recovered its motions. Three months, however, elapsed before the shoulder and arm could move, very imperfectly. The intellect of the patient was enfeebled and much impaired; she seemed to be less conscious of her situation, and she was less apprehensive as to the future.* It is interesting to observe how nearly the symptoms of this patient corresponded with those produced in some of the animals upon which Meyer experimented.

(10.) The subject of the first case in which Sir A. Cooper tied the primitive carotid artery was a woman, 44 years of age, suffering from aneurism of that artery on the *right* side. The operation was performed on the 1st of November. On the 8th the *left* arm and leg became paralytic. Sir A. Cooper found them benumbed, and she moved them with great difficulty; her pulse was weak, and she laboured under considerable constitutional irritation. Sir Astley thought that the powers of these parts would be restored as her health improved. Her head was free from pain. 11th. The arm moved more freely, but not with so much ease as the other. 12th. The power of the arm almost recovered. The report makes no further mention of the state of the limbs. The patient died on the 21st day, not from cerebral disease, but from inflammation of the aneurismal sac and parts adjacent, causing fatal compression of the larynx and pharynx. Permission to open the head could not be obtained. As Sir Astley remarks that "the paralysis came on whilst she laboured under great constitutional irritation, lessened as it decreased, and returned when the irritation became greater," he probably did not attribute it to alteration in the condition of the cerebral circulation.†

(11.) Dr. Zeis, of Dresden, tied the *left* common carotid in a child 18 months old, for a vascular nævus of the cheek. A few days after the wound was completely cicatrized (which it appears, from comparing dates, was about nine weeks after the operation), the child was suddenly attacked with convulsions, and hemiplegia of the *right* side. These symptoms were followed by increasing debility, emaciation, exhausting perspirations, and death, which took place sixteen weeks after the operation. For several days before death, she laboured under some spasms, alternately of the flexor and extensor muscles of the right extremities. The nævus had completely disappeared. The body was not examined.‡

(12.) Mr. A. Macaulay tied the *left* common carotid artery, for the cure of an aneurism, the consequence of a wound, in a gunner, 36 years of age. The operation was shortly followed by headache. On the third day the patient suffered from great drowsiness, and on the fourth, the *right* side of the body was much more feeble than the left; there was also much languor and drowsiness. These symptoms continued for some days, but gradually disappeared, and the man was enabled to return to his duty in about two months.§

(13.) A man in whom Mr. Vincent tied the *right* carotid for aneurism, was attacked with complete hemiplegia of the *left* side in half an hour after the operation, and continued in that state till his death on the seventh day. In commenting upon this and Sir A. Cooper's and Magendie's cases, Dr. Todd observes, "It is remarkable that, in all these cases, the paralysis was situated on the side opposite to that on which the artery was tied; a fact which alone would indicate that the cause of the paralysis was seated in the brain."‖

(14.) In a case operated on by Langenbeck, immediately after the application of the ligature, the patient became motionless, with closed eyes, without speaking, except when addressed several times in succession; he sank gradually, and died in thirty-four hours after the operation.¶

In the course of the present inquiry, I have perused nearly all the recorded cases in which the carotid artery has been tied, and find that, in very many of the patients who did not die of brain disease, cerebral symptoms of a very decided kind occurred, such as drowsiness, giddiness, dizziness, delirium, paralysis of the

* Quoted in Edinburgh Med. and Surg. Journ., vol. 43, p. 484.

† Medico-Chirurgical Trans., vol. i. p. 1.

‡ Zeitschrift für die gesammte Medicin, iij. Brand; 1 Heft; and Brit. and For. Med. Rev., vol. 6, p. 234.

§ Edinburgh Med. and Surg. Journal, vol. 10, p. 179.

‖ Cyclopædia of Anatomy and Physiology, art. Carotid Artery.

¶ Quoted in Cyclopædia of Anat. and Phys. from Arch. Gén. de Méd., t. 19, p. 118.

corresponding side of the face, severe pain in the head, alarming faintness, vertigo, (not attributable to loss of blood,) &c. Indeed, in most of the cases, some one or more of the symptoms has presented itself.

It will be noticed that the period at which the severe cerebral symptoms followed the obliteration of the artery, varied in the cases narrated above. In one of the instances it was doubtful how long the artery had been obstructed when the brain began to suffer; but, in twelve others, paralysis of the side opposite to that of the obstructed artery, or other symptoms of cerebral lesion, supervened within eight days. In the remaining case the signs of brain disease appeared much later.

It is quite apparent that in some of the above cases symptoms of head affection came on very rapidly, evidently from the earlier effects of the interference produced by the operation in the cerebral circulation; and that, in the others, they resulted from disease of the brain, gradually developed in consequence of the altered condition of the arterial supply.

It is impossible to decide what particular state of the cerebral vessels predisposes the brain to become diseased in consequence of obliteration of the carotid; but it appears that, although in most of the instances of this kind the fatal mischief has been consequent upon deficient arterial supply to the hemisphere, in some of the other cases it has probably arisen from increased pressure of the blood upon the arteries of the affected hemisphere, in consequence of the supply to the carotid being diverted through the vessels of the circle of Willis.

In the above cases, the ill effect upon the brain, of obliteration of the carotid artery, does not appear to have been generally attributable to the age of the individuals who suffered, or to any evident fault in their constitutions; the ages of the patients, as far as they can be ascertained, varied from 15 months to 49 years. Some of the cases were traumatic; in others the vessel accidentally underwent spontaneous obliteration: in one it was tied for the cure of congenital deformity; in the remaining instances the operation was had recourse to for the removal of various forms of local disease. In none of these patients does there appear to have been present any indication by which it could be judged that they would be more liable than others to cerebral disease in consequence of carotid obstruction. The fact that such a result is determined in some cases and not in others appears to be altogether inexplicable; thus, in one instance, (Dr. Davy's first case,) we observe that an individual advanced in life, with an impaired constitution, and the subject of general arterial disease, survived for at least fifteen months after the origins of all the large vessels supplying the head had become perfectly occluded; while, on the other hand, we find that in several much younger persons, some of whom apparently had fair constitutions, fatal cerebral lesions resulted, in less than a week, in consequence of obliteration of one of the carotids.

I would, in conclusion, submit the following deductions, which are derived partly from the above facts, and partly from an analysis of most of the recorded instances, in which one of the carotid arteries became obstructed, whether by operation or disease:—

That by far the larger proportion of those in whom the primitive carotid artery, on one side, is obliterated, recovered.*

But that a considerable number of the individuals, so circumstanced, become hemiplegic, and perish from disease of that hemisphere of the brain which corresponds to the obstructed artery.

The conclusion that obliteration of one carotid artery is never liable to be followed by impairment of the cerebral functions, must therefore be discarded.

That the larger proportion of deaths, after ligature of the carotids, occur from affections of the respiratory organs.†

That nearly the whole of the patients upon whom the operation of tying the common carotid artery is performed, suffer, more or less, from symptoms of irritation of the respiratory organs, arising either from compression of the trachea and nerves of the neck (this has frequently occurred from alteration in the condition

* Mr. Thomas Inman found that, in 40 cases where the carotid artery was tied, there were 11 deaths.—*Lancet*, Oct. 5th, 1843.

† I have thought it unnecessary to enter at much length upon this part of the subject, although it is of great importance, because it has been amply discussed by Mr.

of the sac, in cases of carotid aneurism, where the artery has been tied either above or below the enlargement), from irritation of the pneumogastric nerve, or from cerebral disease.

That in the majority of those who die with brain symptoms, consecutive upon obliteration of the carotid. it is evident that the cerebral lesions discovered post-mortem depend upon the arterial obstruction, and that there are no grounds for assuming that the fatal result is occasioned either (1) by an obstructed state of the internal jugular vein,* or (2) by inflammation conveyed backwards along the pneumogastric nerve to the brain, for the following reasons:—

(1.) The form of disease, found in the brain after death, in several (four) of the cases related above was of a kind which is generally considered to depend upon local anemia, not upon congestion.

In some of these instances, signs of deficient supply of blood in the side of the brain to which the obstructed artery passed were strikingly apparent.

The parts of the cerebral substance which were principally involved in disease were those supplied by the chief branches of the obstructed vessel.

Obliteration of the internal jugular vein was not observed.

(2.) There were not remarked any morbid appearances to indicate that inflammation had been conveyed backwards along the nerve to the brain.

The part from which the par vagum arises is not shown to have been involved in the disease.

That cerebral disease may be established in these cases quite independently of implication of either the vein or the nerve, is further proved by the facts that the paralysis has been known to occur almost immediately after the artery has become obstructed, before inflammation could possibly be established in the surrounding parts: and that organic lesions of the brain present themselves in cases where the vessel has become gradually obliterated by processes which are confined to its interior, and do not at all involve adjacent structures.

That, although persons in whom the carotid is tied may suffer from slight cerebral symptoms, and yet perfectly recover, those who become completely hemiplegic have barely a chance of surviving.†

It would be interesting to ascertain the ultimate results upon the brain of ligature of the carotid artery in those who recover from the immediate effects of the operation. There are not, at present, sufficient data to lead to any definite conclusions upon this point. The subject of the second case in which Sir A. Cooper tied the carotid artery died, twenty years afterwards, of apoplexy from rupture of a large branch of the middle cerebral artery on the side where the vessel had been secured.‡ But remote consequences of this kind can, of course, have no influence upon practice.

The facts adduced in this paper, it is submitted, prove that the danger of cerebral disorganization should have its weight in the consideration of cases where it is proposed to secure the common carotid artery; not, indeed, as rendering at all doubtful the propriety of the operation in the majority of the cases in which it is at present had recourse to, but as strongly discountenancing it in nearly all instances where the disease for which it is employed does not positively threaten the patient's existence, and in every case where other means of treatment can be employed.

James Miller, in the Edinburgh Monthly Journal of Med. Science, for January 1842. I was sorry to find that the author of that interesting memoir endeavours to prove that cerebral disease is not liable to result from obliteration of the carotid.

* It will be observed that I have not included Professor Barovero's case, in which the vein is admitted to have been tied with the artery, among those in which cerebral disease is to be considered to have resulted from tying the carotid. It is merely given incidentally by way of illustration.

† Mr. Macaulay's patient (12) does not appear to have been quite hemiplegic. Sir A. Cooper's patient (10) died from another cause, possibly before the cerebral derangement which caused the paralysis had terminated in confirmed structural disease, or there may have been ramollissement of the brain at the time of her death. In Magendie's case (9) the progress of recovery is only traced to the time at which very imperfect power had returned to the paralyzed limbs, and the report terminates at a period when there was still great reason to believe that the patient would fall a victim to cerebral disease.

‡ Guy's Hospital Reports, vol. i. p. 53; and Med. Chir. Transactions, vol. i. p. 222.

It is probable that, in some of the cases where it is thought necessary to secure the primitive carotid artery previously to removing tumours of the neck and head, it would be far better that the surgeon should make up his mind to contend with an active hemorrhage, than that he should submit his patient to the chance of fatal hemiplegia, even although he believed that chance to be a remote one.

These facts may also suggest to the surgeon the propriety of warning the patient's friends (before proceeding to tie one of these arteries) of the possibility that the operation which he proposes may be followed by palsy of a dangerous character.

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33. *Ligature of the Common Carotid for Tumours of the Diploë.*—M. Lewis Bos describes (*Archives Gén.*, Sept., 1845), a case in which the common carotid was tied, with a fatal result, for a *tumour of the diploë*, on the right side of the head, in a girl aged 17 years. The tumour arose from a blow received twenty months before, was very large, and occupied the orbital and the frontal and right temporal regions. It was characterized by a crepitation and crackling, like parchment; the subjacent bones being very thin. In places where the bone was deficient a pulsation synchronous with that at the wrist was felt. Compression produced no cerebral symptoms. The right eye was greatly disorganized, and vision destroyed. The artery was tied to arrest the nutrition and rapid growth of the tumour; the first effects appeared to be satisfactory, pain subsiding, and the volume of the tumour diminishing; but ultimately it inflamed and suppurated, and fever, diarrhœa, and hemorrhage supervened, and the patient died about six weeks from the operation. On post-mortem examination the tumour was found to contain putrid matter and osseous fragments; a large extent of bone was in a state of necrosis, and the brain was in part exposed. In one part, where the morbid growth appeared to be in its first stage, the external table of the bone was as thin as paper, and in places altogether destroyed, being replaced by a resistant fibrous membrane, without pericranium. The interior was divided by fibrous bands, over which blood-vessels ramified. There was suppuration of the brain. The carotid was obliterated above and below the ligature, and at the point corresponding with the origin of the superior thyroid, externally, there was a large opening, by which the arteries communicated with an abscess, filled with pus and coagulated blood, reaching to the carotid canal at the base of the cranium. The pneumogastric nerve and superior cervical ganglion were surrounded by pus.—*Ancell's Report* in *Ranking's Abstract*, vol. ii.

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34. *Vascular Tumour at the Orifice of the Meatus Urinarius.*—A report of a case of this painful and troublesome affection, with some interesting remarks by Dr. Lever, are contained in the *London Medical Gazette*, (Jan. 9th, 1846.)

This disease was first described by Sir C. M. Clarke, (*Diseases of Females*, p. 289.) The patient whose case is related by Dr. Lever was a woman 67 years of age, who suffered from pain in the urethra, irritability of the bladder, constant inclination to void its contents, obstruction in the passage of the urine and a sense of scalding during its passage; pain in the pelvis, coursing to the back, hips, and thighs, was also complained of; she was weak, dyspeptic, dispirited, and worn out for want of sleep. Application to various persons for relief was vainly tried, until the true nature of the case was detected at the Chelsea Dispensary. The growth at the time of her admission was of a florid red colour, and granulated; it protruded through the meatus urinarius, with the margin of which it was unconnected, but had rather a broad and short stalk attaching it with the canal at the distance of about ¼ of an inch. The slightest pressure caused the tumour to bleed, and the most gentle touch occasioned her exquisite pain. These growths appear to consist almost entirely of vessels and their connecting cellular tissue; they must, however, be abundantly supplied with nerves, from the exquisite suffering they occasion. Sometimes we meet with these growths in form and size like a small mulberry, having a slender stalk protruding through the meatus; sometimes these growths are no larger than a pea; in some cases they pass inwards along the urethra as far as, and even into the neck of the bladder; they seem to have their origin below the mucous membrane, and from the submucous cellular tissue. In forming a diagnosis of these tumours, we must not mistake for them simple polypoid tumours, which are occasionally found arising from within the urethra,

and protruding through the meatus; it is true, they dam the flow of urine, the water passes in a small and stifled stream; there may be great efforts to empty the bladder, and if the tumour be long overlooked, the bladder may become thickened, and vesical irritation may ensue, but there is not that exquisite sensibility which is present where there are vascular growths, neither does the polypus so readily bleed. Again, malignant disease occasionally establishes itself at the orifice of the urethra, and this may exist without malignant disease of the uterus and vagina; here, also, there is difficulty in micturition, pain and scalding during the passage of the urine; there is occasional bleeding, and, conjoined with this, or in its absence, a mucous discharge. Ocular examination will, however, readily detect the one from the other; in malignant disease there will be found a hardened lobulated tumour, or a cluster of lobulated tumours involving the urethra to a greater or less degree, diminishing its capacity and almost closing its external opening. And if, in addition to this, malignant disease of the vagina be present, it will greatly assist the diagnosis. Frequently, too, the inguinal glands are enlarged, and the aspect of the patient is characteristic of malignant cachexy. There is another disease to which this part of the female urinary apparatus is liable; viz., thickening of the cellular membrane around the urethra, with an enlarged and varicose state of the vessels, in which there is a dilated state of the blood-vessels with an hypertrophied condition of the cellular membrane; the urethra for an inch or more behind the meatus is frequently so dilated as to hold some few drops of urine, which may be pressed from it, and which create continued irritation. This state of parts is accompanied by constant uneasiness; there may be pain in sexual intercourse, although for the most part females labouring under this malady have their sexual desires exalted; the uneasiness is increased in the erect posture, there is frequent inclination to evacuate the bladder both by night and by day, a small quantity of urine flowing at a time, and the patient generally feels as if there were more fluid to pass. There is also a slight mucous discharge.

The finger passed into the vagina feels the urethra to be swollen and spongy, and if the disease have lasted for some time, there will be a part from which a few drops of urine may be pressed. When inspected, the part will be found of a dark red colour, and in some cases there is tenderness. Verrucous tumours growing from the vestibulum cannot readily be mistaken for this disease; the former are insensible, their colour resembles that of the part from which they grow, their number varies, they may be solitary, in other instances there are many, but in all cases there is a mucous discharge.

"Let me advise you," says Dr. L., "in every case in which you are consulted, when the patient makes complaint of symptoms similar to those detailed in this woman's history, not to prescribe or give an opinion without the privilege of a tactile and visual examination. A neglect of these I have known lead the practitioner to commit sad mistakes, and involve himself in great disgrace. One instance I remember to have seen and treated, where the opinion given was, that there was calculus in the bladder. The patient as well as her friends was very properly alarmed; further advice was recommended; the case was investigated, no calculus was present, the sole disease being a vascular growth; this was removed, and the patient has had no return. I have on several occasions seen cases in which carcinoma uteri was suspected from the pain in micturition, the central pains attacking the pelvis and stretching to the back, hips, and down the thighs, and even this disease in some has been declared by the medical attendant to exist, although he had not availed himself of an internal or visual examination. Be on your guard, therefore; in no case give a hasty or rash opinion; take care not to judge by mere symptoms, without employing the several means of physical diagnosis which in a previous lecture I have detailed.

"Let me now request your attention to the treatment employed in this case; the neck of the tumour was grasped by a pair of forceps, and by means of a pair of scissors the mucous membrane of the urethra involved with the tumour itself was removed. To effect this, the patient should be held firmly, for, if she move, the structure of the growth is so slender that the tumour will tear away; the forceps employed should be broad, not the common artery forceps, for they will lacerate, and not hold firmly. The excision of these growths is frequently accompanied

by a pretty copious bleeding; but it is rarely necessary to tie any vessel; a compress applied to the part for a time usually arrests the hemorrhage; this, however, should be looked to, especially if the patient call at your house, and has any distance to go after the operation; some arg. nit. was applied freely to the part from which the tumour was removed. After the slough separated, the wound looked healthy; there was no pain in passing the urine, which flowed in a full stream for some days. On the 7th, the granulations were sprouting: I then directed the clerk carefully to touch the part with arg. nit. dissolved in nit. acid; this I have found to be more potent, and I think less painful (if I may judge by the expressions of the patients), than the arg. nit.: its effect has been good, and our patient will soon leave the hospital. In those cases where the tumour is of the form of a cherry or mulberry, I find the better plan is to tie a piece of dentist's silk waxed around the stalk, and snip off the tumour below; the silk should not be too thin, or it will cut through, neither should it be tied too tightly for the same reason. When the ligature comes away the stalk must be destroyed in the same way as in the case related; if the mucous membrane itself, and the submucous tissue, be not destroyed, the vascular tumour will most certainly reappear. The most troublesome forms of the complaint that we have to treat are those in which the tumour not only peeps through the meatus, but runs along the urethra, and in some instances passes into the cavity of the bladder; in such, the symptoms of irritation are intense, the stream of urine is as fine as a hair, and the suffering patient attempts to pass her water every three or five minutes. If the disease go on unrelieved, she wastes, becomes dispirited, dyspeptic, and may at last die worn out by her long-continued and aggravated sufferings. In such cases we cannot remove by scissors or knife, the vascular growth within the urethra; the first thing to be done, therefore, is to pass a small sound or catheter to establish a canal for the passage of the urine. However painful this may be, and agonizing it most certainly is, it must be done; some arg. nit. must then be passed along the track of the urethra, and by its agency the vascular growth must be destroyed; the sound or catheter must be passed every day or every second day according to circumstances, and the arg. nit. repeated as soon as the slough occasioned by its use has separated; it is as well to let the patient keep the sound or bougie in the bladder for half an hour after the application of the caustic.

"This is certainly the most difficult form of the tumour to treat, and unless we succeed in effectually destroying the structure from which the tumour proceeds, we shall most certainly have it reappear. While this treatment is had recourse to, the patient must be closely watched, for I have seen cystitis occasioned more than once by the caustic applied in the manner I have recommended; but this will depend on the constitution and susceptibility of the patient, as well as upon the state of the mucous membrane of the bladder itself.

"Various other modes of treatment have been recommended—the application of the Tr. Iodinæ c. Pulv. Sabinæ, Pulv. Alum., &c. All I have tried, with some I have occasionally succeeded, with all I have many times failed; the plan I adopted in this woman's case is the one I believe to be in the majority of cases the most successful.

"When the cause of the continued irritation was removed, this patient's health and spirits quickly recovered, and at the present time she looks remarkably well and lively for a woman of 64."

[An account of an interesting case of this disease successfully healed by Dr. A. E. Hosack, of New York, will be found in the No. of this Journal for Feb. 1840, p. 509.]

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35. *Account of the dissection of a subject who had been cured of Popliteal and Femoral Aneurism (in opposite limbs) by Compression; with observations upon this method of treatment.*—Dr. BELLINGHAM said the case he was about to read to the Society [*the Surgical Society of Ireland*] was one of considerable interest in the present stage of the history of compression in aneurism; and the preparation which he had the opportunity of exhibiting to the meeting afforded additional proofs of the efficacy and permanency of this mode of treatment.

James Hayden, a servant, aged about 35, was admitted into St. Vincent's Hostal, December 19, 1845. He had been twice previously in hospital, having been

admitted in March 1843, labouring under popliteal aneurism on the right side; the treatment by compression was adopted, and he was discharged cured in June of the same year. He was re-admitted in June, 1844, labouring under femoral aneurism in the opposite limb; compression was again employed, and he was dismissed well in September of the same year, and returned to his occupation. He has been in service in the country since, and left it to come up for the last time to hospital.

He stated that about three months ago he began to suffer from pain in the chest on stooping at his work, or on stretching himself; this was slight, was referred to the left nipple, and only felt occasionally. After a time it increased in severity, and was referred to the region of the left scapula as well as to the nipple, and he described it as a scalding pain, resembling that of a blister rising. Six weeks ago the pain became much more severe and more constant; he was unable to sleep owing to it, and he has seldom since been free from pain.

The pain now is principally referred to the region of the left scapula behind, extending to the nipple in front, and sometimes shooting to the epigastrium, or to the right side of the chest. He can cover the space behind where the pain is most severe with three fingers; this is a little below the spine of the left scapula, near the centre of the space between it and the lower angle of the bone, its lowest point being about on a level with the fifth left rib. He describes the pain as having a boring or a burning character behind, from which it shoots to the præcordial region, or from the latter to the former. The pain is always more severe at night than during the day, increases about ten o'clock P. M., and persists until four in the morning, during which period he gets no sleep; latterly, it has extended to the middle of the left arm. There is no pain on pressure at the part, indeed pressure rather relieves it. The pain is most severe and distressing a little above the lower angle of the scapula and in the nipple, shooting from one to the other.

He states that while in the country he was bled, that blisters were several times applied to the seat of the pain, and that he has taken medicines, of which he does not know the nature, but without deriving the slightest benefit.

On examination the action of the heart is normal, its impulse indeed is rather feeble than otherwise, and its sounds are natural. No preternatural pulsation is to be detected anywhere, and the sound on percussion is clear over every part of the chest where it ought to be so. On applying the stethoscope in the left scapular region, where the severe pain is complained of, a distant and feeble double sound, resembling that of the heart, is audible; it is heard over a space about the breadth of the hand, from the spine of the scapula downwards, and towards the vertebral column; it is not audible below the fifth rib; it resembles accurately the feeble beating of the heart heard at a distance, and is accompanied by no abnormal murmur. On tracing it round by the left axilla it is lost, while the respiratory murmur is loud here; the double sound reappears again, as we approach the præcordial region, but here it is the ordinary double sound of the heart, which closely resembles the other, but is louder.

There is neither dyspnœa, cough, nor difficulty of swallowing, neither congestion, nor œdema in any situation; neither palpitation nor feeling of pulsation in any part of the chest, nor can any be detected by the hand; no dullness on percussion in the region where the pain is complained of; no bruit de soufflet or other abnormal murmur; the pulse at each wrist has the same strength and fullness. The patient complains of nothing but pain, and to all appearance is in perfect health.

December 25th. The patient complained that the pain had been more severe than usual last night; it commenced at ten o'clock and continued until four this morning, and extended from the left side of the chest to the left arm; it entirely prevented his sleeping, and he attributes its severity partly to his having omitted to take his opiate. This morning the acute pain had subsided, and he had had some sleep,—indeed he was asleep when visited. Between twelve and one o'clock this day, he was sitting up in bed, conversing with some friends (who had come to visit him) when he coughed up blood two or three times, became faint, leaned back, was slightly convulsed, and died in about ten minutes.

Post-mortem examination.—Body well formed and muscular. On laying open the thorax, the left pleura was found to be full of blood, which had coagulated; the crassamentum occupied the lower, the serum the upper portion of the cavity; it

amounted to above two pounds, had pushed the heart over to the right side, and had come from a rupture of an aneurism of the aorta seated in the descending portion of the arch.

The aneurismal sac was about the size of a hen's egg; its walls were thin, and were necessarily injured in the removal, in consequence of its firm adhesions to the vertebral column; it sprung from the upper part of the descending portion of the arch, and was firmly adherent to the left sides of the bodies of the fourth, fifth, and sixth dorsal vertebræ, the bodies of each of which were slightly corroded, that of the fifth being more so than the fourth or sixth, while the intervertebral cartilages were apparently uninjured. The orifice by which the aorta communicated with the sac was seated at its outer and posterior wall, and was of considerable size, its edges not as smooth or as accurately rounded off as in aneurisms of older standing. The contents of the aneurismal sac were merely a little coagulated blood; there was no deposition of fibrin. The sac had likewise formed adhesions with the upper lobe of the left lung posteriorly, and had burst partly into it, a portion of the lung here being infiltrated with blood, and the serous membrane readily separated from its surface at the part. This accounted for the expectoration of the small quantity of blood which occurred immediately preceding the patient's dissolution.

The heart was about the normal size; an unusual amount of fat was deposited upon its surface, which extended to some depth into the substance of the left ventricle; the scalpel was greased in laying it open; the cavities of the heart were all empty, the valves sound. The thoracic aorta was of the normal size, its coats not thickened, but its lining membrane presented patches of disease. The abdominal aorta was healthy. All the viscera in the abdomen were healthy; the lungs on both sides were free from adhesions.

The arteries of the lower extremities were injected from the abdominal aorta, as it was of great importance to ascertain the condition of the vessels upon which the compression had been exercised. The femoral artery upon each side is seen to be quite pervious down to the site of the original aneurismal sacs;—on the right side (on which the popliteal aneurism had existed) to near the popliteal space; on the left side (where a femoral aneurism low down had existed) to the tendinous canal formed by the adductor magnus and vastus internus muscles.

At the site of each aneurismal sac the artery is quite impervious, and presents the appearance of a solid, thick, flattened band; and at these two points the vein is so firmly adherent to the artery that they cannot be separated. Indeed, through the whole course of the femoral arteries upon each side the vein was more intimately attached to the artery than in ordinary cases, so much so that had the operation by ligature been performed, the femoral vein could not possibly have escaped injury. The femoral arteries appear to be rather smaller than usual, while the profunda and all the branches which proceed from it, particularly the perforating and circumflex arteries, are much enlarged; the branches which come off before the femoral artery divides, are likewise enlarged. Below the site of the aneurismal sacs, the continuation of the canal of the femoral artery is contracted on both sides, and the anterior and posterior tibial arteries in each limb are diminished in diameter near their origin.

Observations.—The patient, the subject of the present communication, was (as I have observed) first admitted into hospital in March, 1843, labouring under popliteal aneurism of the right side; compression was employed, and he was dismissed cured in June of the same year. He was re-admitted in June, 1844, labouring under femoral aneurism in the opposite limb; compression was again employed, and he was discharged cured in September of that year, and remained perfectly well until about three months previous to his last application.

On admission last month he was to all appearance in perfect health, and none of the signs of thoracic aneurism, which are laid down in books as characterizing this affection, were present. Thus there was no external tumour, no abnormal pulsation or murmur in any part of the chest; he complained neither of palpitation, dyspnœa, cough, nor difficulty in swallowing; there was neither venous congestion nor œdema of any part; neither hoarseness nor alteration of the voice; the pulse at each wrist had the same strength and fullness; the respiratory murmur was perfectly normal upon each side; and there was no dullness on percussion at any part of the chest.

The only general sign present was severe pain; and the only physical sign was a double sound, resembling the beating of the heart at a distance, which was audible posteriorly on the left side, about the situation where the pain was most severe. These two signs, taken in connection with the patient's previous history, led at once to the suspicion of thoracic aneurism—indeed the patient was himself under the impression that his disease was of this nature.

The patient obviously had the aneurismal diathesis, evidenced by his having twice previously laboured under aneurism of a large artery. He suffered very severe pain in the chest, referred to the situation of the descending portion of the arch of the aorta, which presented the characters Dr. Beatty and Dr. Law have so well pointed out as almost peculiar to aneurism of the aorta acting upon the spine, or when it occurs in a situation where the unyielding nature of the parts about it binds down the sac, and prevents it from enlarging. These signs, taken in connection with the feeble double sound, resembling that of the heart, heard posteriorly on a line above the fifth rib on the left side, and with the absence of the ordinary symptoms of aneurism of other parts of the aorta, led to the diagnosis of its seat being the descending portion of the arch.

The case, therefore, as an example of aneurism of this part of the vessel, is an exceedingly instructive one, and illustrates remarkably well the improvement which has taken place within a recent period in the diagnosis of thoracic aneurism. But as I wish now to call the attention of the society to other points connected with the case, I shall not dwell any further upon it; nor shall I delay to notice the connection which there would appear to be here between a fatty state of the heart and the disposition to aneurism in the large arteries, which would seem to be something more than a mere coincidence.

The principal point of interest connected with this case, indeed the object which induced me to bring it before the society—is, that it exhibits the results of compression some time after a cure had been effected, and when the patient had remained well in the interval. As this patient had been twice the subject of aneurism, both of which were treated by compression, the preparation upon the table has still more value, exhibiting, as it does, the results of compression in two aneurisms cured at different periods.

As the treatment of aneurism by compression appears to be now an established practice in every case where the situation of the aneurismal sac permits of pressure being applied to the artery leading to it, there is no necessity to trouble the society with observations upon its advantages over the ligature. I shall therefore confine my remarks in a great measure to points illustrated by the dissection in the present case.

It was some time since, and perhaps with reason, urged against this method of treating aneurism, that the period which had intervened since its re-introduction was too short to allow a positive opinion to be pronounced as to the permanency of the cures, or the contrary. Here, however, we have demonstrative evidence that in fifteen or sixteen months from the date of the cure of an aneurism of the femoral artery by compression, the tumour has completely disappeared, the contents of the sac have been absorbed, and the artery at the seat of the aneurism has become quite impervious, so that it would be utterly impossible for pulsation to return, or for an aneurism to form again at the part. Indeed from the mode in which a cure is effected by compression, it seems hardly possible for the pulsation to return, though many instances have occurred where pulsation has returned after the application of a ligature.

Upon a former occasion I laid down the proposition, that to cure an aneurism by compression, such an amount of pressure is never necessary as would cause inflammation and adhesion of the opposed surfaces of the vessel at the point compressed. An examination of the preparation upon the table fully bears out the correctness of this proposition, as we see the femoral artery upon each side to be pervious and uninjured down to the site of the original aneurismal sacs, at which points only its channel is obliterated.

I also laid down the proposition, that it is not necessary to carry the pressure so far as completely to intercept the circulation in the artery at the point compressed, but that the consolidation of the aneurism, will be more certainly brought about, by allowing a feeble current of blood to pass through the sac—in fact, that to apply

compression successively, the velocity and force of the current through the artery leading to the aneurism are to be diminished, while the amount of blood passing into the sac is to be lessened, by which the deposition of fibrin will be encouraged, until the sac no longer permits of the entrance of blood. A cure will then be effected in the manner in which nature, under the most favourable circumstances, brings about the spontaneous cure of aneurism.

This process is necessarily slow and gradual, and must take some time to be accomplished; but when the cure is rapid, and is brought about after the application of pressure for a few days only, (as happened in one of the aneurisms under which this patient laboured,) the period is apparently too short for such a result. Here the cessation of the pulsation in the aneurism, in all probability, depended upon the formation of a coagulum or clot in the aneurismal sac during the action of the compression, which, on the pressure being discontinued for a short interval, was impelled by the strong current of the blood into the vessel leading from the sac, and was so firmly impacted in it as completely to obstruct its channel; the circulation was then determined to the collateral channels, and a cure was effected in somewhat a similar mode to that which follows Brasdor's operation for aneurism. If this is a correct view, it tends in some degree to confirm the theory upon which Brasdor's operation was founded; and that such a result might follow the employment of pressure is evident from what does occasionally occur in the cavities of the heart, when the circulation is much impeded and a coagulum forms, which is carried towards the orifice or outlet of the blood, and either obstructs it or prevents the action of the valves, and so occasions the death of the patient. It appears probable also that this was the mode in which an unexpected cure was accomplished in several cases of popliteal aneurism on record, where a bandage had been merely placed round the limb, with a compress upon the tumour, and the patient was confined to bed.

There is a point connected with the employment of pressure in aneurism to which I have not before alluded, but which is illustrated by the dissection in the present case; it is that the mode in which compression effects the cure of aneurism seems to be more simple, and to require (if I may use the expression) less assistance from nature than the ligature. For instance, when a ligature is placed upon an artery in the usual situation at a distance from the aneurismal sac, to prove effectual it must cause the obliteration of the vessel at the point to which it is applied: the blood contained in the sac, or that which finds its way into it by the anastomosing branches (as there is no *vis a tergo*) coagulates, and the main artery of the limb comes eventually to be obliterated both here and at the site of the ligature: whereas after a cure by compression, the artery is obliterated *only at the seat of the aneurism*. Indeed for this reason, the application of a second ligature higher up the artery, in cases where secondary hemorrhage had occurred, almost necessarily fails, and we can hardly be surprised at gangrene attacking a limb, the main artery supplying which is obliterated at three points in its course.

In addition, the cure of an aneurism by compression is more likely to be effectual, and ought to be more permanent, than one treated by ligature; because in the former case the sac becomes gradually filled by fibrin, or the vessel leading *from* the sac is completely obstructed, and no longer permits of the passage of blood, although all pressure is removed; whereas, after the application of a ligature, a loose coagulum of blood alone remains in the sac, which does not fill it, and may or may not extend into the main artery; the parietes of the sac must therefore necessarily shrink considerably, and the artery supplying it must be closed up before the cure can be pronounced to be permanent. That this sometimes requires a long time to be effected, is shown by the pulsation having returned after a considerable interval in cases where the ligature had been used.

The only objection which it appears to me can be urged with any fairness against the treatment of aneurism by pressure is, that it will probably prove more tedious than the ligature. Admitting this (although in several of the recorded cases it was less tedious), yet when we take into account its perfect safety, its almost absolute certainty; and on the other hand, the risk, the danger, and the uncertainty of the operation by ligature, (particularly in the case of certain arteries,) we cannot, I think, hesitate to give it the preference.

There appears to be but one form of aneurism in which compression is liable to

fail—viz., where the tumour is formed by general dilatation of all the coats of the artery—in fact, where no true aneurismal sac exists; but in such a case it is very probable the ligature would equally fail. If the blood is very poor in fibrin, the treatment is likely to prove much more tedious than usual, or might even fail, as little or no deposition would take place in the sac under such circumstances, and the formation of a coagulum even would be interfered with by the rapidity of the circulation. In such cases, before we commence applying pressure, we should endeavour to improve the condition of the blood, and to increase the quantity of fibrin in it by medicines and by proper attention to diet and regimen.

It has been urged as an objection to this mode of treating aneurism, that it is not only tedious but painful. I do not mean to deny that pressure is painful; indeed it is not unlikely some patients may find it so irksome as to call for the operation, the pain of which they consider will be only momentary, and of the danger of which they are ignorant. But after the pressure has been employed for a time, the pain diminishes materially, and there are modes of applying compression which occasion comparatively little suffering, but to which I need not here more particularly allude. I may, however, mention one which was employed in the present case, which could be continued for almost any length of time without occasioning pain, and which the patient preferred to every other mode. This consisted in a pad made of a piece of bandage rolled up, and laid upon the femoral artery as it passes over the ramus of the pubis, upon which a weight, sufficient to diminish materially or to check the pulsation in the aneurism, was placed, and maintained, in that position by the patient as he lay in bed, with the thigh flexed upon the pelvis. It was an accident which obliged me originally to have recourse to this proceeding: the instrument employed having gone out of order upon a Sunday, when there was no possibility of having it repaired, it occurred to me to try the effect of this simple means. A four-pound weight was first used; this was subsequently changed for a seven-pound weight, which was found to answer remarkably well. I mention it here, merely because the same mode of applying pressure is stated to have been employed with advantage in a case reported some time subsequently, in which no allusion is made to its having been used previously—an omission which I am sure was accidental on the part of the reporter of the case.

As there appears to be some misconception abroad respecting the modern method of treating aneurism by compression, and as it is frequently stated to be nothing more than the revival of an old mode, I will take this opportunity of saying a few words upon these points. That it could hardly be the mere revival of an obsolete and abandoned method must be apparent to any unprejudiced person from the success which has attended its employment in so many cases recently; whereas formerly, success was *the exception* to the general rule; and that it is not the mere revival of an old mode of treatment is proved by the written testimony of the authors themselves who put it in practice.

For instance, the older practitioners who employed compression in the treatment of aneurism aimed either at obliterating the vessel at the point compressed, or they applied the pressure directly upon the aneurismal tumour, or they made general pressure upon the aneurism and entire extremity by means of a compress and roller carried round the limb. As might have been anticipated, they very seldom succeeded—indeed so seldom that the plan came, not only to be entirely abandoned by surgeons, but it is discountenanced in every standard work on surgery, and represented to be tedious, painful, and doubtful, and uncertain in the extreme. * * * * * * But we have seen that in the mode in which compression is employed *now* (for the cure of aneurism) the obliteration of the artery at the point compressed is never aimed at—indeed the amount of pressure necessary is not even so great as completely to check the current through the artery leading to the sac; neither is pressure applied to the aneurismal tumour itself, either of which proceedings would necessarily occasion so much pain that few patients would be found willing to submit to it; and the latter would probably do much more harm than good, and might occasion the rupture of the sac and the conversion of a circumscribed into a diffused aneurism. Nor is the application of a tight bandage round the limb, with or without a compress upon the aneurismal sac, advisable—indeed it would probably act rather injuriously than otherwise, by interfering with the return of the venous blood, or with the establishment of the

collateral circulation, particularly with the enlargement of the articular arteries about the knee, which always increase remarkably in size, after the filling up of the sac, in cases of popliteal aneurism.

In conclusion, it may, I think, be laid down from what precedes, that the ancient and modern methods of employing pressure are essentially different; and although the two proceedings bear the same name, there is really no more resemblance between them than between the old operation for aneurism (in which the sac was laid open and the artery tied above and below it) and the Hunterian method, in which the vessel is tied at a distance from the sac and in a situation where its coats are healthy.—*Dublin Medical Press*, Jan. 21, 1846.

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36. *Aneurism at the commencement of the Femoral artery—Ligature of the External Iliac.* By A. Kidd, Esq., (*Dublin Med. Press*, Jan. 21.)—The subject of this case was a girl 22 years of age, who, in 1840, accidentally fell upon the margin of a large tub, that portion of the right thigh just below Poupart's ligament coming against it. Two days afterwards she first observed a small pulsating tumour, which gradually increased, and when she applied to Mr. Kidd, nearly five years after the accident, it was an immense tumour situated in the right inguinal region, coming up closely to Poupart's ligament, of a conical form, the base inferiorly and internally, the apex superiorly and externally in the direction of the anterior superior spinous process of the ilium, rather irregular on the surface, and with a good many large dilated veins meandering beneath the skin. The tumour measured from above downwards, 7 inches. Transversely, 11 inches. Thickness of it round the thigh, 23 inches. Thickness of thigh in opposite side in same situation, 16½ inches. Difference in circumference between the two, 6½ inches.

The pulsation in the tumour at this time was not very distinct, which is easily accounted for by its long standing and great size, but upon examining it carefully Mr. K. easily satisfied his mind that it was present, and that it was synchronous with the pulse. By the aid of the stethoscope the bruit de soufflet was quite audible over the tumour; the extremity below was swollen and œdematous; the tumour on pressure felt hard and solid; the veins coming up from the foot and leg seemed large and varicose; she complained of cramps and pain down the thigh, with a good deal of uneasy feeling in the tumour; exercise always gave pain, and she was obliged to avoid it as much as possible.

On the 28th Oct., 1845, Mr. K. applied a ligature to the external iliac artery; the patient convalesced without any unfavourable occurrence. Two months after the operation, the date of the last report, the tumour had very much lessened, the wound had long before healed; the ligature was taken away on the 19th day.

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37 *Aneurism of the Abdominal Aorta, simulating Calculus in the Bladder.*—Mr. Fenwick relates in the *Lancet* (Jan 24th, 1846), an interesting example of this. The subject of the case was a man 32 years of age, admitted into the Newcastle-upon-Tyne Infirmary in Sept., 1838, under Mr. Greenhow. The patient "complained of violent pain at the glans penis and pubic region during and after micturition, also of pain in the region of the kidneys, and at the scrobiculis cordis. Urine red, depositing a thick sediment; tongue white and appetite bad. His illness had been of two years' duration, and was attributed to distress of mind. The symptoms appearing to indicate the presence of a stone in the bladder; a sound was introduced, but no calculus could be detected. Five days after his admission, he was seized with sudden faintness, the countenance became anxious, the voice whispering, the pulse exceedingly feeble, and the stomach rejected all food. On attempting to rise from his bed, three days afterwards, he was again attacked with sudden fainting, from which he never rallied, but died in a few hours.

Autopsy, thirty-six hours after death.—The abdomen was found filled with blood, which had proceeded from the bursting of an aneurism of the aorta. The tumour was the size of a large orange, and had produced caries of the bodies of the vertebræ on which it rested, and to which it firmly adhered. The heart was enlarged; the left ventricle hypertrophied, and the tricuspid valve thickened. No calculus in the bladder, and no appearance of disease in any of the urinary organs.

"*Remarks.*—1st. This case presents an instance of a fact frequently observed in the practice of medicine, that an irritation applied to a nerve is often only indi-

cated by pain in a distant part. Here the pressure upon the aortic plexus produced the usual symptoms of calculus in the bladder, by means, we may suppose, of the communications of the aortic with the hypogastric plexus of nerves. 2dly. It would appear, from the sudden depression observed five days after his admission, that the aneurism had burst at that time, but that the hemorrhage had been arrested by natural means until three days afterwards, when the fatal rupture took place."

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38. *Aneurism by Anastomosis of the Scalp.* By Wm. Fraser, M. D., of Montreal. (*British American Journal*, Feb., 1846.)—The subject of this case was a man 20 years of age, who consulted Dr. Fraser on the 19th June last, on account of a tumour about the size of half an orange, situated over the posterior and superior angle of the right parietal bone.

About twelve years previously he fell on his back; that part of the head occupied by the tumour struck a log, which produced a bruise of the scalp; this spot became very hard, then commenced throbbing, and has been gradually enlarging; during the year preceding the above date, it had increased more than during any former one, and so troublesome had the whizzing pulsation he then experienced become, that it occasionally prevented him from sleeping; in other respects he enjoyed good health.

To the eye pulsation in the tumour was very apparent; the scalp covering it was thinner than natural, but not discoloured; to the ear, aided with the stethoscope, the aneurismal bruit was distinctly perceptible; to the feel it was soft, communicated a peculiar thrill to the finger, and could be nearly emptied by pressure, when the bone beneath felt deeply and irregularly indented; on removing the pressure it refilled almost immediately. The occipital and temporal arteries on the same side were greatly enlarged, and imparted a vibrating sensation to the finger placed over them. The bone beneath them also was channeled out, evidently by the continued stream of blood passing through the enlarged and excited vessels, having caused its absorption.

It was determined to try the effect of the consolidation of the tumour by means of setons. Accordingly, on the same day (June 19th) three small setons were passed through it.

On the 21st, passed a fourth, and two through the occipital artery, between the tumour and mastoid process.

On the 24th, a needle was passed beneath the occipital artery, just where it emerges from behind the mastoid process, and a hare-lip suture, twisted around it sufficiently tight to keep its anterior and posterior surfaces in close contact, with the view of thereby producing their adhesion and its obliteration. The temporal, close to the edge of the zigoma, was treated in the same way. This had the immediate effect of arresting the strong pulsation and vibration, in both tumour and arteries, and even the bruit was but faintly perceived with the stethoscope.

28.—Feeble pulsations again perceptible in the right temporal and occipital. The stethoscopic bruit more distinct in the tumour; considerable irritation from setons—three of them removed; one was followed by a gush of arterial blood, which was arrested by continued pressure. No more irritation where needles have been applied than desirable. Painted tumour with iodine.

29th.—Two more setons were removed; hemorrhage again followed, which was stopped after a good deal of trouble, by continued pressure with the sponge.

30th.—The varicose appearance of the arteries had almost entirely disappeared; their course was not now perceptible. The bruit was still heard in the tumour, most distinctly so on its left side, where an enlarged branch of the left occipital entered it, and seemed its chief supply. When this branch and the temporal of the same side were sufficiently pressed upon to stop the current of blood through them, the stethoscopic bruit was no longer heard. This induced Dr. F. to treat them in the same way as the right, with needles and hare-lip sutures, which completely removed the bruit for the time.

At the same time Dr. F. removed the sutures and needles applied to the arteries of the right side on the 24th. A jet of arterial blood followed the withdrawal of the occipital needle, which was easily stopped by pressure.

The tumour, which was now very flaccid, was emptied of blood, strapped

down with adhesive plaster, and a compress containing sheet lead, and a bandage applied.

July 2.—Bandage, &c., were removed. Left occipital found still pervious, probably from the needle having passed through, instead of beneath the vessel. Another needle was passed beneath the artery higher up, where it was more superficial.

8th.—The sutures and needles applied on left side were removed on the 30th ult., and that applied to the right occipital on the 2d instant; no circulation in any of the arteries deligated could be felt.

The tumour was now much reduced in size, the whizzing noise, which had been so annoying to the patient, was gone; but though without activity, it was still higher and softer than the neighbouring scalp. In order to reduce it still further, Dr. F. kept setons in it till the 24th August, and from that date to the 27th September, when the patient left for home, the tumour was constantly compressed by adhesive plaster, sheet lead, and a bandage. On his leaving Dr. F., could perceive no bruit in the remains of the tumour, and it was daily decreasing in size, and increasing in firmness. I had, therefore, says Dr. F. every reason to expect a radical cure, and had this not been the case, its remains might, at this time, have been excised without much risk of uncontrollable hemorrhage. But to this proceeding, even if it had been deemed necessary, there was, at least, one substantial objection; I mean the state of the bone. To have cut down upon and exposed a bone in the state in which I conceive it was in this case, would be a step which, I presume, no prudent surgeon would willingly have undertaken. Besides this, some of the gentlemen who saw the case were of opinion that the disease had originated in the bone itself.

During the period of the above treatment, the patient's general good health was very little affected; he was not confined to the house for a single day. On the 4th of November last he wrote Dr. F. that he felt neither pain nor pulsation in the remains of the swelling, which was then about as low as the rest of the scalp, and pretty firm, though not so firm as the rest of the head.

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39. *Bony Tumour in a Nerve.* (*Prov. Med. and Surg. Journal*, Oct. 29, 1845.) Mr. Colborne records an example of this occurring in a female, admitted under Mr. Quain, into University College Hospital. In the winter of 1839–40, the patient first experienced a twitching sensation in the foot whenever the ham was struck: this gradually became more marked during the next two years. Two years later, (winter of 1841–2,) the twitching sensation came on independently of external violence, recurred every night; the paroxysms increased in severity and continued for a longer time. In January, 1843, she was married, and a few months after, the paroxysms came on regularly about two P. M., still increasing in violence and duration. In October, 1843, she had a child, and a second, in June, 1845; during each labour, and for three days, after the first six hours, after the second, she was free from pain. Two months after the birth of her first child she took arsenic and opium, which freed her of the pain for a month. After her second labour, she was narcotized for five days, but the pain returned with increased intensity. In September, she was admitted into hospital, when on examination a tumour was discovered near the inner ham-string muscles, and two or three inches above the level of the patella; it appeared to be about the size of a small walnut and in the popliteal space; but little manipulation could be allowed on account of the intense pain it caused in the foot, though it produced no local uneasiness.

The patient has exhibited no symptoms of hysteria, nor suffered from any other neuralgic pain, but appeared to be a sensible and strong-minded woman.

In the commencement of the disease, the pain was confined to the inner part of the sole of the foot, but afterwards extended over the whole of the under part of the foot except the toes, and latterly included the heel; the pain was never accompanied by spasms. She has been aware of the existence of a tumour in the ham for about three years.

On the 18th September, the tumour was removed by a longitudinal incision over its seat, and on dividing the deep fascia, a hard gritty tumour was seen in the internal popliteal nerve, the nervous fibres passing over it in bands of unequal

size, and thus enclosing it. On dividing the cellular cyst, which enclosed it, the tumour was readily turned out. The patient was put to bed; considerable pain was felt in the wound, but that in the foot ceased shortly after the operation, some degree of numbness however remaining in the limb. She was ordered morphia at bed-time.

On examining the tumour, it was found to be about the size of a small walnut, furrowed in one or two parts on the surface where the bands of nervous fibres passed over it. It weighs 228 grains, and is constituted of about two-thirds phosphate and carbonate of lime, a trace of phosphate of iron, and a trace of sulphate of lime, with animal matter. After the wound healed the pains in the foot entirely disappeared.

40. *Œdema of the Glottis from slight injury of the Mucous Surface—Laryngotomy—Cure.* (*Lond. Med. Gaz.*, Nov. 28th, 1845.)—The subject of this case was a woman, aged 33. Whilst eating her supper, between 5 and 6 o'clock, a piece of unmasticated crust of bread slipped into the œsophagus and stuck there, producing great uneasiness. Finding she could not get it down by the most powerful efforts to swallow or to drink water, she made an attempt to reach it with her fingers. In this she failed, but the irritation of the fauces occasioned by it, brought on retching, and this action had the effect of moving the crust and lodging it higher up in the throat. According to her account, however, it still required a resolute effort for its removal, and in the course of her endeavours, she felt, to use her own term, as if the "flesh had been torn" either by her fingers or by the foreign body. For about two hours after this she felt no particular inconvenience from the occurrence, but then began to experience some difficulty in breathing. She lay in bed restless and uneasy, starting up in alarm the moment she fell asleep. One or two of the attacks of threatening suffocation were very alarming. Towards morning the difficulty of breathing became less urgent.

When seen by Mr. J. F. Crookes, at half past 10, A.M. (Oct. 2), she was sitting propped up in bed; her face humid and red, expressive of uneasiness and alarm. Her breathing, however, was at this time tranquil, and air entered freely into the lungs. Her voice was feeble and hoarse, and every attempt to swallow liquids brought on spasm of the muscles of the throat and face. The fauces had a natural appearance on an ordinary inspection, but when the root of the tongue was forcibly depressed, a rounded tumour, the size of a cherry, and of a faint red colour, was perceived in the situation of the glottis, consisting obviously of the mucous membrane in an œdematous state.

Ten leeches had already been applied by order of Mr. Taylor, who had seen her early in the morning, and the bites were still bleeding freely under the use of warm fomentations. Her bowels had acted freely in the morning.

As she was apparently deriving benefit from the remedies then in action, and as her breathing was tranquil and free, Mr. C. left her for a short time to make a call in the immediate neighbourhood. On his return he found her in a condition requiring immediate recourse to some measure for her relief. Her face was livid and swollen; and the spasmodic efforts by which she was drawing into her chest the smallest quantities of air, were evidently failing. She was comatose before she could be placed upon a table.

Laryngotomy was performed a little before noon. A second or two after the tube was introduced into the trachea, the lividity of the face entirely disappeared and the poor woman was restored to perfect consciousness. For the greater convenience of treatment the patient was removed in the course of the afternoon to St. Bartholomew's Hospital. With the exception of a little difficulty of breathing in the course of the night, arising from the tube getting blocked up with mucus, everything went on very favourably. Soon after the operation, air was found to pass through the nostrils, and on Mr. Lawrence's visit between one and two o'clock on the following day, the tube was removed, respiration being carried on without impediment through the natural passage. In about a week the air only passed through the wound on coughing, and ceased to do so altogether three or four days later. Eight days after the operation she complained of some pain in her chest, but on auscultation no sound was heard to create any fear of inflammation, and the application of a blister speedily removed it. No other untoward symptom occurred, and the wound is now (Oct. 21st) entirely cicatrized.

41. *Observations on some diseases of Bursæ Mucosæ.*—Mr. J. Kirby, in an interesting paper on this subject in the *Dublin Medical Press*, Dec. 31st, states that after having been in the habit of treating certain diseases of the bursæ operatively for many years, he has for a long time discontinued a practice, which extensive experience induces him to condemn as a proceeding unnecessary, painful, tedious, and oftentimes unsatisfactory, and he points out other means of treatment less objectionable than the knife, and perhaps more efficacious.

All cases of bursitis may, according to Mr. Kirby, be reduced under the following heads:—

1st. Those immediately subsequent to injury.
2d. Such as are independent of injury.
3d. Those which proceed from an often-repeated irritation.
4th. Those which attend constitutional disease.
5th. Such as are open and ulcerated.

First and Second Head.—Case I.—A lady, ascending a high phæton, struck her patella against a step. In four hours the bursa was swollen to the size of an egg. The tumour was colourless, unaccompanied by much pain, and on handling it there was perceptible crepitus. It disappeared in three days under observance of rest, with the use of cold vinegar and water, applied by compress, which was retained by a moderately tight bandage.

Case II.—A man, in removing a heavy piece of furniture, received a contusion on the olecranon. Instantaneous effusion took place, and a tumour as large as an egg quickly formed. Mr. K. saw him in an hour after the accident. The skin was smooth from tension; there was no abrasion or ecchymosis.

This case was well in three days, the arm being carried in a sling and vinegar, &c., applied as in Case I.

Case III.—A carpenter, who knows no cause for a swelling on the point of the elbow, has a very large round tumour of the part, by which his arm feels so weak, that he is unable to work at his trade. It formed rather suddenly, and it is of a fortnight's continuance. The integuments are pale, smooth, and the tumour is somewhat transparent.

This case was cured in a week by penciling it thrice daily with the alcoholic solution of iodine, and tightly applying cold water poultice after the cuticle became detached.

Third Head.—Case I.—The subject is a female servant of thirty. The bursal tumour is of five years standing, and extends beyond the margin of the patella. The skin is rough, with slightly indented transverse rugæ, and of a leathery thickness. The sac is rather flaccid. It feels firm, knotty, and when the parts are pinched up and rubbed together, a harsh friction is perceptible by the fingers, and is also audible. She attributes the disease to constant kneeling, by which repeated attacks of inflammation have been induced and maintained. She considers herself to be in excellent health.

Mr. K. applied the strong alcoholic solution every day until the cutis was exposed. He then dressed with ung. iodinii comp., by which a painful degree of inflammation was induced. This was allowed to subside under the use of emollient poultices, and the same irritation was again excited, and again removed by the same means. The skin being healed, and the fluid being absorbed, straps of adhesive mercurial plaster were applied with a view to pressure, and a tight bandage was laid round the joint. Being a servant, she could not indulge herself as much as Mr. K. desired. However, in a few weeks, she was able to discharge all her duties, except such as required a kneeling posture. Mr. K. saw this woman after a lapse of some years. The disease did not return.

Case II.—A healthy woman of twenty-five has had diseased bursa of the right knee for the past five years. The integuments are of a brownish-red colour, scurfy, and marked by deep transverse rugæ; the skin feels very thick and is adherent to the cyst, which spreads far beyond the surface of the patella. The tumour being flaccid, and seemingly but half full of fluid, admits of being rubbed between the fingers, on which occasion coarse bands slip gratingly over each other. On pushing the swelling aside, fibres stretching from it like radii, give a puckered appearance to the surrounding skin. The enlargement is greatest near the tuber tibiæ, where there is slight œdema. Kneeling always excites inflamma-

tion, of which an attack is now subsiding by means of rest and stooping. She suffers so frequently that she dreads disablement; and she is most anxious to submit to anything which promises permanent riddance of the disease.

When inflammation had fully retired by sedatives, poultices, and continued rest, Mr. K. strapped the parts tightly with adhesive mercurial plaster and firm bandage, renewing the application every third day, and permitting her to go about.

In six weeks the superficial appearances were natural, all fluid gone, and bursal thickness was much diminished. In three weeks more, the only trace of disease was a slight diffused callousness over the patella. Although she considered herself cured, Mr. K. advised the constant use of the plaster and bandage for a month longer.

Fourth Head.—That effusion takes place into certain bursæ independently of violence or any topical irritation, but mainly in consequence of constitutional derangement, is a fact which, I presume to say, is not generally known. But I have seen it exemplified so frequently in others, and I have had such decisive experience of it in my own person, that the opinion is one I most pertinaciously hold. The bursæ to which I allude are the popliteal, trochanteric, that at the os calcis, and one of a reticular structure, situated on the surface of the tendo-Achillis, an inch and a half or two inches above its attachments to the heel. All these cases occur in persons in whom the gouty diathesis has been long and intensely marked, with the exception of one, a young man of extremely temperate habits, but in whom there is unequivocal evidence of hereditary disposition to that disease.

When such cases are understood in their true character, local treatment, Mr. K. says, "is quite unnecessary; and it may be of injurious tendency. Moderate attention to the digestive functions, skin functions, and urinary secretions, with temperance in every way, will be followed by sure but slow absorption of the fluid. Exercise is to be urged, even at the expense of pain, which the support of a bandage properly applied will much diminish."

In proof of this position, Mr. K. adverts to the circumstances of the last attack which he suffered.

"Amidst gouty sensations, (which, by the way, the gouty alone can understand,) painless popliteal fullness imperceptibly took place during night, and embarrassed the movements of my left knee the next morning. I felt the joint weak: extension was restrained. My imagination gave me to think there was a large ball in my ham—a notion proved by examination to be fallacious; yet there was fullness to convexity, so that when the leg was extended, the ham-strings were much below its level. I felt well and buoyant. Freed from all my uncomfortable symptoms, I rejoiced in this localization. In two days the tumour increased, progression was more uncomfortable, and I now found the bursa of the biceps and vastus externus to be engaged. In a few days the articular cavity was the seat of considerable effusion. The knee was irregularly globular; the leg could not be stretched; the articulation was weak, and felt as if external support would give it strength and comfort; slight œdema in front of the upper part of the tibia.

"Attending to general matters, and instructed by former personal experience, I applied a bandage with severe tightness, and I went about as usual. I never considered the compression to be sufficient unless my leg and foot were œdematous at night. This plan was pursued for five weeks, and being unnecessary, was then discontinued.

"Many things under our daily notice fail to attract inquiring attention. The remedial agency of compression is certainly amongst the number; yet it is a great power, capable of exercising a great influence in the treatment of disease; and therefore deserving more attention than it receives, both as to the cases admissive of its application, as well as with reference to the mode of its salutary action.

"A high degree of compression is adequate, not only to prevent nutrition of a part, but even to effect the removal of the most solid structures—a fact sufficiently illustrated in the scalp dimple caused by spectacles; in the bed produced by the pad of a long worn truss; in the atrophied limbs of those who are reared to mendicancy, and in the effects of aneurism on bone. The bandage cast round a fractured member, and by the unreflecting thought to act solely by the support it administers, exercises a control far beyond the calculation of a superficial ob-

server. Œdema of the legs disappears by the use of a well-adjusted roller. Abdominal fullness is reduced by the waist-belt, while many tumours of the cavity have disappeared by its influence. Its advantages in varicose limbs, in many chronic ulcers, in thickened structures—nay, in great disorganization of the urethra, are well understood."

That compression may be, therefore, a competent adjunct to other treatment in certain affections of the bursæ, cannot, Mr. K. says, reasonably admit of doubt—at least so far as organic changes and effusion are taken into account, and thinks it is adequate of itself to accomplish in many cases a cure.

In places to which pressure is inapplicable, percussion, Mr. K. says, is an excellent substitute, and that he has found it so in effusions in the trochanteric bursa.

"Gouty engagement of the reticular bursa on the tendo-Achillis is uncommon. It is attended with lameness and some œdema of the outside of the foot, and the lateral hollows above the heel. It appears like a band across the tendon, and it is very tender when squeezed. By the application of a camphorated mercurial plaster supported by a bandage, the inconvenience it produces is well relieved, and the local disease finally disappears under general treatment.

"These remarks equally apply to the bursa of the os calcis.

"*Fifth Head.*—Few local diseases are more tedious in their progress, or more troublesome in management, than ulceration of bursal structures, whether they are the consequences of operation, or arise from neglected inflammation. Both, after some continuance, soon present nearly the same aspect, and are accompanied with the same painful restraint to the motion of the knee. The ulcer rarely equals the size of the patella; generally it is much less. It has an unhealthy appearance, with angry-looking margins, a chorded surface, with depressed yellow interstices, a copious, semi-glutinous gleety discharge, and it has often reminded me of the characters of a superficial cutaneous cancer, into which, I may here add, I have known it to degenerate.

"Such sores seldom heal under emollient treatment, although it is sometimes employed with advantage to relieve irritation induced by other applications. Stimulants answer better than any remedies. I tried many, and my experience leads me to prefer common basilicon ointment, rubbed up with red precipitate and spirits of wine. Adhesive straps are useful, when the surface cleans and granulations form. Strict and patient rest must ever be enjoined.

"I have no doubt that the strong alcoholic solution of iodine, as first recommended by Dr. Davies, will be found to be the most approved means of exciting the necessary degree of action in long-standing diseases of the bursæ. It is a most manageable remedy, and its stimulant powers seem to be more rapidly and more permanently displayed than that of any other external application.

"Irritation of the cyst is the grand object of all topical treatment; for unless it be induced, our efforts must surely be made in vain. Mr. Ramsden was well aware of this fact, and he has most happily expressed himself in these judicious terms:—The large ganglion of the knee will resist every degree of stimulus to the skin that falls short of producing an excitement of the membrane within which the fluid is effused. But blistering until the envelop becomes excited, though the stimulus be discontinued, the disease, after a reasonable time, will gradually disappear."

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42. *Removal of a portion of the Liver from the Human Subject.* By John Macpherson, M. D.—A Hindoo, aged between 60 and 70, was in June last brought in, a distance of six miles, to Howrah, with a spear-wound in the abdomen, about three inches above the umbilicus, and two inches to its right, through which a triangular portion of liver protruded, of about the size and shape of the four fingers of the hand, lying side by side. The wound itself did not exceed an inch in length, and was completely choked up by the liver. The man stated that he had been stabbed in the dark about twelve hours previously, and that the liver came through the wound, as the spear was drawn out. It was added, that there had been very copious hemorrhage, but the liver itself was not wounded, and though the patient was in considerable pain, the pulse was very little depressed.

My friend, Dr. C. M. Henderson, who was present, agreeing that it would be impossible to return the protrusion without enlarging the wound to the extent of several inches, it was resolved, rather than wait for the tedious process of sloughing, to remove it by the knife.

To prevent hemorrhage, a ligature was applied tightly round the base of the protrusion, which was then cut off. Nevertheless, two arterial twigs bled very freely, and it was found necessary to take them up, and a double ligature was also passed through the stump, and tied on either side, when all bleeding ceased. No attempt was made to return the portion of liver which still filled up the wound, as it was of course desirable to prevent all risk of blood or of bile being extravasated into the cavity of the abdomen. For a day or two the patient was rather low, and had slight irritative fever, and the bowels remained costive. These symptoms, however, yielded to a few doses of purgative medicine, and in nine days the ligatures came away along with a small slough of liver; the wound granulated and healed, and the man returned to his home in three weeks. No bilious discharge occurred from the granulating surface of liver. The portion of liver removed, after having lost its blood, and being in spirits for some weeks, weighed 1¼ oz. Its surface is uneven, though not torn, and it is probably a portion of the edge of the right lobe, from near the notch between it and the left.

It is difficult to explain how so large a portion of liver could have protruded through so small a wound, even if allowance be made for the size of the wound being diminished by the contraction of the abdominal muscles, and for the protruded portion becoming congested.

It is unnecessary here to allude to wounds of the abdomen generally, or of the liver in particular, (for in this case the liver does not seem to have been wounded,) or to the extraordinary recoveries from almost every variety of them. Such cases are innumerable.

It has long been known, from the experiments of one of the Monros, that rabbits have suffered very little from having portions of their livers cut off. It was also known, that patients live for years after the loss of very considerable portions of liver by hepatic abscess, and may exist for months, with the whole liver converted into a mere cyst; but the actual removal of a considerable portion of the liver from the human subject, with so very little constitutional disturbance, even allowing for the patient being a native, is a fact of considerable interest in medicine and in physiology.

I may add, that the patient complained of a good deal of pain when the surface of the liver was touched, but that cutting through its substance hardly caused him any.

The old man appeared two months after, as prosecutor in his own case; he was in perfect health; there was a little puckering in of the skin about the wound, and the liver was evidently adherent beneath.—*London Med. Gaz.*, Jan. 16th, 1846.

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43. *Resection of the entire Upper-Jaw.* By Dr. Heifelder, Clinical Professor of Erlangen.—A man, aged 23 years, was affected with a tumour which occupied the palatine vault, extending to the two superior maxillary bones; the nose was elevated and flattened, the *velum palati* drawn towards the tongue; the face was œdematous and deformed; respiration difficult; voice almost destroyed; sleep restless; the teeth were loose; the tumour was hard and insensible; there was no appearance of the cancerous cachexia. The only chance of preserving the patient was the removal of the superior maxilla. The operation was performed the 23d July in the following manner, in the presence of MM. Constadt, Seibold, and several others:—The patient being seated firmly in a chair, and his head reclining against the breast of an assistant, the operator made two parallel incisions, beginning at the external angle of each eye, extending downwards towards the commissures of the lips; a quadrangular flap was thus formed, which he dissected up and turned over on the forehead; a chain-saw was then passed into the left spheno-maxillary fissure dividing the left portion of the superior maxillary molar bones; a similar section was made in the same way on the right side, so as to separate entirely the maxillary bones from the ossa unguis and ethmoid above, solely by means of the chain-saw; some cuts of a scissors detached the vomer and other remaining adhesions, and then a slight force detached the whole osseous piece. The operation lasted three-quarters of an hour; the patient lost but little blood. During these proceedings the patient fainted three times, which caused a little delay. The flap was then drawn down to its proper position, and united to the contiguous parts by twenty-seven points of suture. Little fever followed, and in

four days the union of the wound was complete, and the patient swallowed with ease. On the 25th of August, he went out perfectly cured, with a very trifling deformity; a cleft fifteen lines long was to be seen in the situation of the vault of the palate; the uvula and velum palati were in their natural position; deglutition was free, and the patient could easily make himself understood.—*Dublin Med. Press*, Jan. 7, 1846, from *Walthur and Ammon's Journal fur Chirurgie.*

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44. *Compound Fracture of Os Frontis in a child 18 months old,—three pieces of Bone remaining in the Cerebrum during four months. Recovery.* By Thomas Inman, M.D. —Isabella Oliver, aged 18 months, was brought to the Infirmary in her mother's arms, having just received a kick from a horse. On examination, an extensive fracture of the right frontal bone was discovered, with great loss of substance. The little finger was passed through the opening into the brain, which was extensively lacerated, but no fragments could be detected. The child did not appear to suffer from the injury. A little lint, dipped in cold water, was laid over the wound, with directions to the mother to keep it constantly wet, &c.

In a few days the brain was seen to be (superficially) in a sloughing condition, but no bad symptoms appeared. Six weeks afterwards the slough separated, excepting at one spot, where it adhered pertinaciously, evidently having very deep connections. The rest of the exposed surface was covered by healthy, florid granulations. Four months after the injury four pieces of bone were found in the wound, and readily extracted; they were all rough and dry, as if they had been dead a long time, of different sizes, but in all sufficient to cover a half-crown piece.

In six days from this time the wound had cicatrized completely. The union, however, was membranous only, and the brain could be distinctly seen to pulsate through it. Considerable pressure could be borne at this part without producing any particular effect.

No untoward symptom occurred at any time after the injury, if we except a slight debility while the slough was separating, indicated only by the weakness of the cry.

No other treatment was adopted than an occasional powder to open the bowels, and the continuance of water dressing.—*Report of Liverpool Path. Soc., Edin. Med.* and *Surg. Journ.*, Oct. 1845.

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45. *Fractures of the Ribs.*—M. Lisfranc has introduced what is said to be a modification in the treatment of this accident, the importance of which experience confirms. Pressure exercised on an oval body acts with more force in the direction of the longest diameter; and the tranverse is generally greater than the antero-posterior diameter of the thorax. Accordingly, the pressure of a bandage, embracing the whole circumference of the chest, is greatest at the lateral parts, and thus must tend to press the ends of the bone *inwards*, instead of fulfilling the indication of directing them *outwards*. For the latter purpose compresses, about four inches wide, should be placed over the sternum; so graduated, that the antero-posterior not only equals but even exceeds the lateral diameter.

This principle of treatment is undoubtedly correct, and we believe it is admitted by Mr. Samuel Cooper and others; at the same time it is very seldom acted upon in this country, and perhaps in consequence of the omission, the bandages have frequently to be removed altogether, to obviate the pain produced in respiration by the fractured extremity of the bone.—*Ancell's Report* in *Ranking's Abstract*, vol. ii. from *Gaz. des Hopitaux*, July 8, 1845.

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46. *Amputation at the Ankle-Joint.*—Dr. Handyside, of the Royal Infirmary, Edinburgh, has forwarded us several papers containing cases intended to assist in forming an estimate of the relative merits of amputation below the knee and at the ankle-joint for caries of the joint and tarsus. He describes the method of operating by antero-posterior flaps, as practiced by Professor Syme, the soft parts of the heel being included in the posterior flap, and the flaps meeting transversely in front of the anterior margin of the lower end of the tibia; but Dr. Handyside recommends in preference a method by antero-lateral flaps. This operation is described as follows:—A strong bistoury was entered in front of the joint, and

midway between the malleoli. From this point an incision was carried forwards, over the side of the instep, in a semicircular direction, and then downwards to the middle line of the foot, terminating immediately in front of the ball of the hee . The extremities of this incision were met by another and a similar one on the outer aspect of the joint, the second one terminating where the first had been commenced. The flaps were then dissected backwards,—the tendo-Achillis was easily divided at its attachment to the os calcis,—and the separation of the foot was readily accomplished. The malleoli were removed by the saw, and along with them about one-eighth of an inch of the lower end of the tibia, although the cartilaginous surface of the latter was not diseased. The anterior tibial and external plantar arteries were tied. After the introduction of the sutures, which were five in number, the flaps covered the bone completely, and the flesh of the ball of the heel was situated, as in the antero-posterior flap operation, below the extremities of the bones. A bandage was then applied to support the stump. The flaps united almost entirely by the first intention, and a month afterwards the patient could rest his weight on the stump; the ball of the heel continued to form an excellent cushion beneath the ends of the bones; the cicatrix was situated vertically on the forepart of the stump; it did not exceed two inches in length; and the leg was only an inch and a half shorter than the other, so that the patient could walk easily with a high-heeled padded shoe.

This operation is inapplicable in some instances, as in severe injuries at the ankle-joint with extensive contusion and laceration of the soft parts, or acute gangrene of the foot, &c., and therefore it cannot entirely supersede amputation of the leg; still it has been performed in more than twenty cases in Edinburgh, all the patients, except one, recovering, and no doubt can be entertained that it is less dangerous to life. It has many advantages over Mr. Syme's method; the flaps meeting vertically in front—the facility afforded of incising the pad of the heel, if necessary, backwards from the point where the two antero-lateral incisions meet—there being no danger from sloughing, since the posterior tibial artery is not divided—the operation being much more easily and rapidly performed—and the readiness with which, should suppuration take place, the matter drains from the lower commissure of the flaps,—are particularly enumerated. In separating the malleoli, it is better to employ the saw than the cutting pliers, as a thin slice of the lower end of the tibia ought always to be removed.—*Ibid.*

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47. *New Form of Varicose Aneurism.*—M. Berard describes (*Gaz. Méd. de Paris*, June 7th, 1845), a variety of varicose aneurism in which the tumour, instead of forming a direct passage of communication between the two vessels, constitutes a sort of diverticulum on the parietes of the vein, at a distance from the artery, while a communication exists through the parietes of the vein contiguous to the artery into the latter vessel, as in the aneurismal varix. The case of a man whose brachial artery was wounded in bleeding is given. After having emptied the sac of the fluid blood and clots which it contained, M. Bérard placed a ligature on the artery two centimetres above the point whence the blood escaped at the bottom of the wound. Still, blood continued to flow,—black when the artery was compressed, both arterial and venous when the compression was removed. It was now ascertained that deep down the artery presented on its anterior parietes a large wound, nearly transverse, more than half way across the vessel. The posterior parietes of the vein presented a wound exactly corresponding with that in the artery. On the anterior parietes of the vein a third wound was discovered, exactly similar to the two former, and in the front of the vein there was an aneurismal sac. Thus the sac received the blood of the artery, mediately. Adhesion between the vein and artery below the puncture rendered it necessary to include them in the same ligature, when all hemorrhage instantly ceased.

M. Bérard believes this form of varicose aneurism exists much more frequently than that intermediate between the vein and artery, although not hitherto described.—*Ibid.*

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48. *Early operation for Hare-lip.*—In the No. of this Journal for July, 1842, p. 188, we gave an abstract of a communication made to the Surgical Society of Ireland, by Dr. Houston, the object of which was to show the expediency of ope-

rating very early for hare-lip. In a subsequent communication to the same Society, Dr. H. adduced some further evidence in support of his views. (See this Journal for Oct. 1843, p. 478.) Dr. HULLIHEN of Wheeling, also advocates the same doctrine, (see this Journal for Oct. 1844, p. 547,) and still more recently, M. P. DUBOIS, in a paper read before the French Academy of Medicine, on the 27th of May last, adduces his experience in its favour. He details a considerable number of cases of infants operated on by himself or his friends, at intervals varying from a few minutes, to several days or weeks after birth, and all of which had proved completely successful. Dr. DAWSON advocates, also, the same practice, and relates, in the *Dublin Medical Press*, for March 23d, 1842, a case in which he operated successfully on a child four days old, and in the same Journal (Dec. 3d, 1845,) the following, in which he operated with the most satisfactory result, on a child seven hours old.

"At nine o'clock on the morning of Wednesday, the 18th of September last, Mrs. Irwin was delivered of a fine healthy girl, which, on examination, was found to have a hare-lip on the left side without any fissure of palate. The mother being very delicate, it was at once agreed that she should not see her offspring (the first) until the deformity should be removed. I was requested to operate, which I performed in the usual way at four P. M., exactly seven hours after its birth. The pins I removed in forty-eight hours after the operation, and in two days more (Sunday) the union was so perfect, that the adhesive straps were removed, and then, for the first time, was it exhibited to its mother, who could scarcely credit us when told all that had occurred. The loss of blood was trifling, but to guard against the possibility of any finding its way into the stomach, I placed a slice of sponge inside the gums. I should add, that up to the present time the child is in the best of health, and confirms me in my determination to operate in similar cases soon after birth."

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49. *Ovarian Dropsy.*—Dr. BENNET read to the Medico-Chirurgical Society of Edinburgh, December 3d, 1846, a paper on Ovarian Dropsy. From several cases of this disease which he had observed, followed by careful post-mortem examinations, he endeavoured to show, that the fluid so frequently found in the cavity of the peritoneum, was secreted from the interior of the tumour in the following manner:—The cystic tumour of the ovary, at an early period of its development, is crowded with secondary cysts. These become expanded, and at last burst into each other, so that at an advanced period it consists of only a few or even one large cyst. In some rare cases, the external wall of the tumour contracts adhesions to the peritoneum throughout, an example of which was given. In the generality of instances, however, ulceration takes place in the walls of the cyst, the secreted fluid passes through the opening so made, into the cavity of the peritoneum, and there accumulates.

The structure of these cystic tumours consists, 1st, of a dense fibrous envelop; 2d, of numerous secondary cysts, varying in size. They are all richly furnished with blood-vessels, and are lined internally with a distinct layer of epithelial cells. These cells, as the cysts expand and burst, escape through the ulcerated openings with the fluid. They constitute the floccule seen in the viscid fluid removed by tapping. They are easily distinguished microscopically from the known structure of lymph, and their detection is, in the author's opinion, capable of being made diagnostic in certain cases. Dr. Bennet further thought, that the uterine sound of Dr. Simpson greatly facilitated the diagnosis of ovarian and uterine tumours.

The author then read the details of a case in which, at his request, Dr. Handyside had performed ovariotomy, both ovaries being removed. It terminated fatally on the 70th day.—*Northern Journal of Med.*, Jan., 1846.

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50. *Foreign Body in the Tongue for Thirty-two Years.*—Dr. Krähe relates in *Med. Zeit. v. d. Verein für Heilk. in Prussen*, (xiv. Jahrg. 1845, No. 32,) the case of a German soldier who was wounded in the battle of Gross-Görschen (2d May, 1813) by a musket ball, which penetrated the left cheek, carrying away the four last molars of the upper jaw, and, passing through the tongue, made its exit through the left cheek, carrying away several teeth of the left side of the under jaw. The wounds healed in six weeks, and, except the loss of the teeth, no other deformity

remained but the cicatrix of the tongue, which did not impede his speaking or chewing. During the spring of the year, at which time the patient was subject to pulmonary and cerebral congestion, severe pains, with slight swelling of the tongue, came on, to which was added, in the year 1829, a small swelling of its right side, which suppurated and discharged thin matter, after which it gradually healed. On the 2d of May, 1845, a similar swelling made its appearance in the same place, which opened without discharging any matter, and, after some days, what appeared to be a small piece of bone presented itself in the opening, which on being removed, proved to be the second molar tooth, which had penetrated the tongue from the musket shot thirty-two years previously, and had during the whole time caused no great inconvenience. The roots of the tooth were broken off by the neck, and the whole surface covered by calcareous deposit.—*Ibid.*, Dec., 1845.

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51. *Expulsion of a piece of Bone from the Gullet at the end of eight months.* By Robert Brown, of Preston.—The following case of prolonged lodgment of a foreign body, for the period of eight months, in the upper part of the œsophagus, giving rise to severe respiratory embarrassment, but without occasioning any impediment to deglutition, is sufficiently curious to merit publicity.

Mrs. Backhouse, æt. 62, whilst eating a beef-steak pie, in January, 1845, accidentally swallowed a piece of bone. She was much distressed at the time by efforts to vomit, during which some blood was brought up. Embarrassed breathing, cough, muco-purulent, and occasionally hæmoptic expectoration, with loss of strength, and emaciation soon followed. Auscultation failed in discovering the cause of so much pulmonary disturbance.

This deranged condition of health continued until the morning of Thursday, August 28, 1845, when, during a severe paroxysm of coughing, she brought up a large mouthful of phlegm—experienced the sensation of something giving way in the throat, speedily succeeded by the feeling of a sharp substance across the passage. During a fit of vomiting she succeeded, by means of her finger, in removing the accompanying piece of bone.

A week subsequent to the discharge of the bone, all traces of previous irritation were entirely removed.—*Ibid.*, Nov., 1845.

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52. *Statistics of Lithotomy.*—Dr. F. H. Brett has performed lithotomy in 108 cases, with a fatal result in only 7.

The following table shows some of the particulars of these cases:—

	Moosulmans.	Hindoos.	Europeans.	Cured.	Died.	Total.
No. under Puberty,	15	53	2	68	2	70
No. of Adults,	8	30	0	33	5	38
	23	83	2	101	7	108

Med. Times, Jan. 31, 1846.

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53. *Treatment of Seminal Losses by Compression.* By M. Brachet, of Lyons. The author cites four cases of spermatorrhœa, arising from different causes, all of which were cured in from two to three months by compression in the perineum over the prostate gland. He admits that compression is not applicable to all cases, and that avoidance of the cause of this disease is for the most part sufficient for the cure; but he thinks that it will succeed in every case of atony occasioned by abuse, or even by protracted or frequently repeated attacks of gonorrhœa. He endeavours to show that the injurious influence of the complaint results from the nature of the seminal fluid, the too frequent discharge of which cannot take place with impunity. He further attributes a part of the injurious effects to the too abundant secretion of prostatic fluid; and, comparing this fluid with that secreted by the cryptæ of the vagina at the moment of coitus, and in certain cases of leucorrhœa, he establishes an analogy which must exist between those isolated cryptæ in the vagina, and those which constitute the prostate. He then gives a satisfactory explanation of the manner in which compression acts. It produces two effects—on the one hand, it confines the semen in its reservoirs, and accustoms them to tolerate its presence better, and to retain it longer; on the other hand, it

modifies the physiological condition of the urethra, of the prostate, and of the excretory organs of the semen. The cure is attributable to this double effect. By modifying the pathological state of the affected parts they are reinstated in their normal condition.

The compressing bandage is formed of a leather belt, from behind which proceeds a thigh strap, at first simple and then bifurcated, to leave the genital organs free, and to be brought round and attached to the belt by two buckles with thongs. The thigh strap has a movable pad in the middle, which is placed over the point to be compressed and drawn as tight as possible. This simple method differs essentially from the circular compression of the penis by rings, bands, or forceps, all of which are liable to serious accident; the least of which is the repulsion of the semen towards the bladder, which occasions an illusory appearance of a cure, since, although the semen does not pass outward, it is not the less certainly evacuated; that is to say, expelled from its reservoirs. M. Brachet brought the above-mentioned cases before the Academy in order that practitioners may determine the real value of the remedy.—*Ranking's Abstract*, vol. ii. from *Annales de Chirurgie*, June, 1845.

OPHTHALMOLOGY.

54. *Periostitis of the Orbit.* By J. Hamilton, M. R. I. A.—Mr. Hamilton describes four cases of this disease, which he believes to be of somewhat rare occurrence. Two of these succeeded to unequivocal syphilitic symptoms. In one, the disease extended to the brain, and the patient died. The third case was a tumour in the roof of the orbit, displacing the eye, which Mr. Hamilton believes also to have arisen from inflammation of the periosteum. Where this inflammation occurs without any observable swelling it is easily mistaken. In one case it was overlooked for several weeks, during which the patient suffered great pain along the eyebrow, forehead, and side of the head. The eye protruded, and vision was temporarily extinguished. On pressing upwards instead of forwards extreme tenderness was found in the orbital plate of the temporal bone. In all the cases the author has met with, the disease occupied the inner two-thirds of this plate, which may be explained by the part being covered with integuments only. In the case of tumour in the left orbit the vision became troubled, the patient seeing double, one object above another. This latter peculiarity, the result of the difference of the axis of vision in the two eyes, distinguishes this symptom from the double vision resulting from morbus cerebri, where the two images generally appear side by side.

The patient soon became conscious that the eye was pushed out of its place; there was a constant sensation of dust in the eye, and he had not quite as perfect a power of the motion of it, and of the eyelid, as previously. On admission his state was as follows. The eye was displaced downwards, forwards, and a little outwards; the infra-orbital fossa nearly filled up, particularly on the inner side; in which situation, immediately under the orbital ridge, a small smooth tumour could be felt, very hard, like bone, and evidently springing from the roof of the orbit; deeper than this there was a small soft swelling like a soft tubercle. No discoloration was observed in the integuments; there was a little tenderness over the swellings, and here, and in the supra-orbital region, he formerly used to suffer pain. He was not subject to headache, but had violent earache of the left side; he thinks a year ago the eye was more displaced than now.

When in this disease the pain in the eyebrow is accompanied by swelling beneath it, and displacement of the eye, its recognition would appear to be easy. The important point of diagnosis is that pressure under the eyebrow in the orbital plate gives great pain—"*the true shrinking pain of periostitis.*" From the cases related, it follows that we may meet with:

1st. Pain in the orbit, supra-orbital region, temple and side of the head from periostitis, with little apparent swelling.

2d. With such amount of swelling as to displace the eye.

3d. With suppuration, caries of the bone, and perforation of the frontal sinus;

or where the disease is situated deeper than the frontal sinus, the diseased action may extend through the orbital plate of the frontal bone into the cavity of the cranium, to the membranes of the brain, and cause death.

These varieties will be readily explained by attending to the different forms in which periostitis presents itself, either simple thickening of the periosteum, or deposit of serum, cartilage, bone, or pus between it and the bone. In cases of pain in the orbit, &c., pressure should always be made directly upwards on the roof of the orbit; acute persistent tenderness in that situation being one of the most decided marks of the disease.—*Ranking's Abstract*, from *Dublin Journal*, July 1845.

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55. *Muscæ Volitantes.*—Dr. MACKENZIE (*Edin. Med. and Surg. Journ.*, July, 1845), has contributed a long and elaborate paper on the "Vision of Objects on and in the Eye," otherwise on the various kinds of *muscæ volitantes;* and having analyzed at length the several opinions of writers on the nature and causes of these spectra, he considers them in the following systematic order:—1. *The muco-lachrymal spectrum*, which is generally invisible to the naked eye, but may be usually seen in the form of dark globules (capable of being removed, or having their position changed, by nictitation), when looking through the microscope, or still more distinctly and certainly when viewing a candle, placed at some twenty feet distant, through a deep concave lens. This spectrum is the result of each globule of the muco-lachrymal secretion lying on the cornea, acting on the small pencil of divergent light thus allowed to fall upon it, which it converges sufficiently as (together with the refraction of the transparent media of the eye) to bring it to a focus on the retina, where are consequently produced as many multiplications of the image of the candle as there are globules.—2. *Spectre depending on corpuscles between the cornea and vitreous humour.* These also are ordinarily invisible to the naked eye; but their presence may be detected by the same method as was indicated for the muco-lachrymal spectrum, from which they may be distinguished by not suffering displacement or nictitation, by occupying a posterior plane in the field of view, and by the double images which these corpuscles form on exposing the eye to two divergent beams of light (as in Sir David Brewster's experiment with two candles), being less separated from one another than the double images of the muco-lachrymal spectrum. From corpuscles residing in the vitreous humour they will be distinguished by their occupying an anterior plane in the field of view, by their double images being more widely separated, and by the possibility of readily inverting their spectrum by simply carrying forward the convex lens (through which the candle is being viewed in the experiment) from the eye, so that the cornea is no longer within the focal distance of the lens. In this latter circumstance it would seem that if, by shifting the focus of the rays which impinge on the retina, we find that the corpuscles (the situation of which is the object of investigation) are at one time anterior and at another posterior to that focus, and their spectrum thereby inverted; this proves that they are situated in the anterior part of the eye; whereas if the spectrum cannot be thus inverted, the cause must reside in the vitreous humour. 3. *Spectra depending on corpuscles in or behind the vitreous humour.* These are of four different kinds, and may be seen by looking at the sky through a pin-hole aperture in a card, or more distinctly by looking at the flame of a candle, two or three feet distant, through the eye-glass of a compound microscope. In this last experiment "four sets of spectra will be seen, independent of the muco-lachrymal spectrum. The most remarkable one appears nearest to the eye, and consists of twisted strings of minute pearly globules hung across the field of view; this I shall call the *pearly spectrum.* These strings are of various forms and lengths; they also vary in number, sometimes existing in such large quantity as to be troublesome in ordinary vision, giving rise to another form of muscæ volitantes, which appear usually as a thin cloud, somewhat like the wing of a fly, or as semi-opaque threads, like a spider's web, or of blackish soot-like particles, dancing before the eyes. Sometimes the threads terminate in a kind of bulb. The pearl-like globules, of which the threads are composed, vary in size, and seem joined together merely by apposition, without being contained

in a tube.* The second in point of remarkableness, and the farthest from the eye, consist of watery-like threads, destitute of any globular appearance, and depending chiefly from the upper part of the field, easily seen at the lower part: this I call the *watery* spectrum, merely from its appearance, for I have ascertained neither its seat nor its nature. The depending threads of which this spectrum consist have a somewhat rounded appearance, differing in this respect from the pearly muscæ, the threads of which seem flat. Each of the watery threads is bounded by two dark lines, within which there is a broad space, which is clear and entirely destitute of anything like globules. These watery threads measure fully twice the diameter of the threads of the pearly spectrum. They are generally six or eight in number, not all situated in the same plane. Their general course is vertical, and generally flexuous: they often divide at their lower extremity, into two or more branches, which seem to melt away insensibly. They have so much the appearance which streams of tears, flowing over the cornea, might be supposed to present, that they might be readily mistaken for them, but from their lying in a plane posterior to the muco-lachrymal spectrum. At first sight they seem to slide down slowly from the upper to the middle part of the field of view; but they possess neither the extent nor the quickness of motion of the pearly spectrum. Any bending or extending which they undergo in the movements of the eye is slight, and although seemingly displaced and broken into fragments by nictitation, they are not really so. This watery spectrum sometimes becomes much exaggerated, and then produces the sensation of muscæ volitantes in ordinary vision. It is frequently compared to the appearance of threads of spun glass, laid across each other, or to that of a fine lock of wool, and occasionally, by one or two forcible acts of nictitation, they may be dispersed. In two distinct planes between the *watery* and *pearly* spectrum are placed two sets of insulated globules, which I call the *insulo-globular* spectra. The globules composing the set farthest from the eye are hazy and ill-defined, and may be compared to small grains of sago; those nearest to the eye are clear in the centre, exterior to which they present a sharp black ring, and still more exteriorly, a lucid circumference. The above four sets of spectra never mingle with one another, so as to change the order in which they stand before the eye; but the pearly spectrum always appears the nearest; then the sharply-defined insulo-globular; then the obscurely-defined globules; and, farthest away, the watery threads. That the corpuscles which produce these four sets of spectra are situated in or within the vitreous, and not, as Donné (*Archives Gén. de Méd.*, t. xxii., p. 115) supposed, in the aqueous humour, is manifest from the fact that none of these spectra can be inverted by viewing them through a concave lens, or by first viewing them through a convex lens held close to the eye, and then carrying the lens forwards from the eye, so that the eye is beyond the focal distance of the lens, experiments which at once invert the muco-lachrymal spectrum, and would, it is presumed, do the same to any spectrum depending on the state of the aqueous humour of the crystaline. 4. The next variety of spectrum Dr. Mackenzie describes is the *circulatory* one. It is frequently observed after sneezing, coughing, or any kind of straining, especially when performed with the eyes open, and appears in the form of numberless minute lucid points, darting about in all directions, an effect which Dr. Mackenzie thinks may probably be due to the passage of

* Dr. Mackenzie enters very minutely into the subject of the probable seat and cause of the pearly spectrum, and after analyzing at length the opinions of the various writers who have regarded the pearly corpuscles as situated on the surface of the cornea, within the aqueous humour, the imagined humour of Morgagni, the vitreous humour, the space between the hyaloid membrane and the retina, the retina and the choroid, he concludes that in all probability the vitreous humour is their seat (which view is also entertained by Dr. Jago, and by others). What the cause may be is still obscure; Dr. Mackenzie inclines to the notion that the contracted (or probably obliterated) capsular arteries which traverse the vitreous humour may contain arrested blood-globules, and so give rise to the appearance which the pearly spectrum presents; whilst Dr. Jago (London Med. Gaz., May 16, 1845) seems to regard them as caused by fringes or processes of the hyaloid membrane, or deposits within this membrane.

blood-corpuscles through the vessels of the choroid. 5. His last variety is the *vascular* spectrum, a term applied to certain fixed muscæ, as those produced in Purkinje's well-known experiment, in which the blood-vessels and central spot of the retina are brought into view, as also the numerous class of phenomena known by the names of *accidental colours* and *ocular spectra.—Kirke's Report in Ranking's Abstract*, vol. ii.

56. *Cure of Strabismus.—Ligatures on the Recti Muscles of the Eye.*—DIEFFENBACH appears to have been the first, in 1842, to apply a ligature to the divided end of the muscle for the purpose of rendering the cure of strabismus by operation more perfect. Mr. WILDE, of St. Mark's Ophthalmic Hospital, has been the first to resort to this method extensively in this country. He has employed it in at least eighteen patients, including cases of both convergent and divergent strabismus. When there is reason to believe that division of the tendon will not rectify the deformity, which circumstance may frequently be determined beforehand, the portion of the muscle attached to the sclerotica should be left longer than usual, by dividing it between the hook and its origin, as far back as can be safely managed. Having curved a small sewing-needle, about No. 7, and armed it with a fine ligature, the end of the muscle attached to the sclerotica has to be seized with a fine-toothed forceps, and the thread passed twice through it, drawing it tight the second time, so as to secure firmly a piece of the divided tendon. By this means a power is attained over the globe, which will carry it in any direction. In fixing the ligature, care should be taken to fasten it by a second coil into the muscle; otherwise, if allowed to play in a loop, it will cut through before the object is effected. The loose end of the ligature is to be attached, by means of adhesive straps, to the middle of the nose, or to the malar bone, so as to draw the globe of the eye in the direction required. The length of time it must remain on varies according to circumstances, but, as a rule, it should never be removed while it continues on the stretch, or in other words, till the eye has completely righted itself, either by the action of the other muscles, or by the fixed position, "the setting," of the globe in its new aspect. The patient appears to experience but little inconvenience. In some instances the ligatures have been applied to both eyes, and Mr. Wilde suggests that a ligature might be tied without dividing the muscle where strabismus is caused by permanent spasm, or shortening of the internal rectus, or paralysis of the abductor, and also for the purpose of restoring to a straight position those eyes that have become over-divergent after the usual operation.—*Ancell's Report*, from *Dublin Journal*, Nov., 1845.

MIDWIFERY.

57. *Two cases of Labour protracted by Insuperable Rigidity of the Os Uteri—with remarks.* By JOHN C. LEVER, M.D. (*Guy's Hospital Reports*, Oct., 1145.)—In this interesting paper the author gives the history of two cases of labour protracted by insuperable rigidity of the os uteri. In the first case, which the author saw in consultation with Mr. Dry, various remedies were tried without overcoming the rigidity; and a portion of the os and cervix of the uterus was separated during labour and expelled. The patient died. The second case Dr. Lever saw in consultation with Mr. Evans. He divided the whip-cord margin of the os uteri towards the posterior part of the sides of the pelvis, in the direction of either sacro-iliac sychondrosis. The incisions were made during the contraction of the uterus and gave no pain. The labour then went on and terminated favourably.

In his remarks Dr. Lever refers to other cases of a similar character, and concludes with the following propositions:—

1st. That insuperable rigidity of the os uteri occasionally occurs, over which the usual remedies exercise no influence.

2. That such insuperable rigidity may lead to a partial or complete separation of the cervix.

3. That, to prevent such a serious lesion, two methods of treatment have been recommended; the one consisting in artificial dilatation; the other, in incising the rigid and contracted os uteri.

4. That artificial dilatation, in most cases, is unjustifiable, from the serious injuries it occasions, and the consequent irritation and inflammation.

5. That under such circumstances, an incision of the os uteri, in one or more places, should be performed.

6. That the operation is unattended with danger, unaccompanied by pain, and, if rightly performed, free from copious or dangerous hemorrhage.

7. But the operation, to be successful, must be performed before there are symptoms of approaching collapse.

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58. *On the Development of the Placenta within the Fallopian Tube.* By J. M. Pagan, M. D., Prof. Midwifery, University of Glasgow. (*Monthly Journal of Med. Sci.*, Nov., 1845.)—The object of this paper is to direct attention to the development of the placenta, either partially or entirely within the tube. This subject, Prof. Pagan remarks, "has not hitherto received much illustration from accoucheurs; it is left altogether unnoticed in our systematic works on midwifery; and I believe, though I have not entered into any extensive research, that Riecke and D'Outrepont are the only writers who have directed the attention of the profession to this subject as one of practical importance, giving rise, as they believe, to abortion in the early periods of gestation, and to retention of the placenta in the last stage of labour, frequently mistaken for one or other of the varieties of irregular uterine contraction. Whether the development of the whole, or a part of the placenta within the Fallopian tube, be a frequent occurrence, giving rise to abortion in the first place, and to retention of the placenta in the second, may be questioned; yet, that it does occur occasionally is beyond doubt."

With reference to the diagnosis of the placenta within the tube before or during labour, Prof. P. says he has nothing to offer, except that he should hope to derive some assistance from auscultation, if he discovered a well-defined tumour of the uterus in the situation of the uterine extremity of either tube. The discovery of this cause of retention of the placenta after the birth of the child, is the most important point, because, if not detected, and treated in the proper manner, it may give rise to hemorrhage, and to the fatal result which frequently ensues upon the retention of a portion of the after-birth; and this cause may be suspected, if the uterus be pretty equally contracted, assuming nearly its natural figure, with the exception of a well-defined soft tumour in the situation of the uterine extremity of either tube. It is true there may be a tumour within the walls of the uterus itself, which, in some cases, Prof. F. has known to increase with the enlargement of the uterus during gestation, and gradually to diminish, probably to the size which it had attained before pregnancy ensued. Yet he thinks the two conditions may be distinguished. It is, however, unnecessary to enter into this point, because it is obvious that if the development of the placenta within the tube should occasion hemorrhage, or prove a cause of retention, it would lead to the usual practice in such cases and to the discovery of the cause. It is not certain that the placenta may not be wholly, or partially developed in the Fallopian tube, though we do not discover it, because the muscularity of the tube increases with its expansion; and unless there should be preternatural adhesion, or irregular contraction, particularly of its sphincter fibres, the tube itself is capable of separating the placenta from its attachment, and expelling it by its contractility, into the cavity of the uterus.

Prof. P. describes the only case which has occurred to himself where he was certain that a portion of the placenta was developed within the tube, and where it gave rise to retention and secondary hemorrhage. We shall not give the particulars of this case, but subjoin those of a very interesting one communicated to the Prof. by Mr. J. Bell, in which a post-mortem examination was made.

"The case, of which the following account is a summary, occurred in the practice of my late partner, Mr. Hunter, January 3, 1838. Mrs. M'D., after a tedious labour, gave birth to a male child. About an hour afterwards, considerable hemorrhage took place, and though cold in the usual modes was assiduously applied, yet the flooding increased. Mr. H. determined to remove the placenta, and was in the act of introducing his hand for that purpose, when the woman fainted. The relatives becoming alarmed, I was sent for. I found the patient pale and much exhausted, the loss of blood somewhat diminished, and the pla-

centa still in the uterus, which felt large and soft. The immediate extraction of the placenta was resolved on. Its removal was effected with considerable difficulty, in consequence of its adhering firmly to the uterus. After its separation the uterus contracted, and the hemorrhage ceased. The placenta was much lacerated, and extensively indurated on its uterine surface.

"During the night several clots were discharged from the vagina, and slight hemorrhage returned, but it was suspended by the application of cold to the nates and vulva.

"On the 4th and 5th the patient had no complaint but debility. On the morning of the 6th she had a rigor, which was followed by severe pain in the lower part of the abdomen, and other symptoms of peritonitis. Mercury was employed both internally and externally, along with rubefacients, &c., but without advantage. She sunk and died on the 10th, the seventh day after delivery.

"*Dissection thirty-six hours after death.*—The abdominal cavity contained about two pounds of serous fluid, mixed with small pieces of soft lymph. The peritoneum of the parietes of the lower part of the abdomen, and of the intestines, was reddened or congested at several points; the peritoneal covering of the uterus was very much congested, presenting several patches of a deep crimson hue, and surrounded by layers of soft lymph; the cellular tissue was filled with a thin yellowish purulent-looking fluid. On making a section of the uterus, we found in its cavity about an ounce of dark-coloured fluid, of an offensive odour; the mucous membrane was of a dark colour, and very soft. Near the fundus uteri, towards the right side, a blackish substance, about the size of a large plum, was observed;—it was found to be a portion of the placenta adhering firmly to the uterus. Whilst removing it, we found that it penetrated the Fallopian tube, on opening which we found a portion of placenta measuring 3¼ inches in length, and adhering to the tube round its margin as it entered the uterus, at which place it was fully three inches in circumference, but gradually tapered into a point as it approached the other extremity of the tube."

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59. *New Sign of Pregnancy.*—Dr. Pallender states that during a practice of 18 years, he has observed a peculiar smell of the vaginal mucus to be a constant and unerring sign of pregnancy. The smell is musty, something like that of spermatic fluid or liquor amnii; and, after a vaginal examination, it cannot be mistaken for any other odour. In a great many cases of pregnancy, during the first, second, and third months, when the condition of the patient was doubtful, owing to the earliness of the period, the author never, in a single instance, failed to discover the true state of the party by means of this sign. According to his latest observations, this odour is perceptible as early as the eighth day of gestation.—*North. Journ. Med.*, Nov., 1845, from *Med. Correspond. Rhein and Westfäl Aerzte*, 1845. Bd. iv., No. 1.

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60. *Case in which the Cæsarean Section was performed on account of a Pelvic Tumour* [a prolapsed ovarium containing a fœtus] *preventing delivery.* By William Lyon, Esq., of Glasgow. (*Lond. and Edin. Monthly Journ. Med. Sci.*, Dec., 1845.)—The subject of this case was a young healthy woman in labour at full time with her first child. Slight pains came on the night of the 23d March, and Mr. Young having discovered a pelvic tumour, called Mr. Lyon in consultation. On examination, March 25th, the pelvis was found to be occupied, from one sacro-sciatic notch to the other, and from the junction of the sacrum with the coccyx to the brim, by a tumour the size of a child's head. It projected so far forwards at the brim, that two fingers placed side by side, and the one side directed forwards, and the other backwards, could, *with difficulty*, be passed between it and the pubes; and it diminished in size below, or receded so much into the hollow of the sacrum, that three or four fingers-breadth intervened between its inferior part, and the arch of the pubes. It was globular in front, and laterally, gradually merged into, and apparently united with the pelvis; it felt all over very firm,—at some parts superiorly, of osseous hardness, and at others obscurely elastic. Strong pressure on it occasioned pain, but whether in the soft tissues covering it, or in the body of the tumour, could not be ascertained. In various positions of the patient, it felt quite immovable, though strongly pressed in every direction; and it could not be

influenced by depression, elevation, or any other motion of the uterus and child. The rectum passed in *front* of the tumour, and the posterior part of the bladder touched its anterior surface. With some difficulty the os uteri could be reached: —of course above the pubes and superior and anterior part of the tumour. The os was soft, oblong, in the transverse direction of the pelvis, dilatable to the size of a shilling, as it had been at Mr. Young's first visit, and was very slightly affected by the occasional pains.

The patient had never suffered any injury of the pelvis, but had had upon three occasions, during the six immediately antecedent years inability to pass urine, which on each occasion continued for several days, necessitating the employment of the catheter.

The feeling conveyed by the surface of the tumour, its partial elasticity at some points, its osseous hardness, its almost crackling under the fingers at others, the circumstance of the rectum being pushed in front of it, along with its *perfect immobility*, and the history of the case, led Mr. Young and Mr. Lyon to believe that it was connected with, or sprung from, the pelvis. On the other hand, its great size, and the degree to which it narrowed the antero-posterior diameter of the pelvis, almost convinced them that the patient could not be delivered without breaking down the tumour, or performing the Cæsarean section.

As there were not, however, any symptoms necessitating immediate interference, it was agreed to delay for a short time, in order to observe the effect of the labour upon the tumour; but determining not to allow the patient to become exhausted.

The next day Drs. Macfarlane and Wilson were added to the consultation. The pains had been slight and frequent, and had not produced any change.

The size, position, immobility, and, as far as ascertainable, the structure of the tumour, were carefully re-examined. The opinions of all favoured the supposition that it was connected with the bone, was likely osteo-sarcoma, and that the sacro-pubic diameter of the brim was so narrowed, (scarcely permitting passage of the tips of two fingers,) that breaking up the fœtal cranium was, if practicable, certain to be attended with so much difficulty, that death of the mother would almost inevitably follow from the necessarily protracted operation, consequent exhaustion, and unavoidable injury to the soft textures.

It was not conceived possible for the evacuated fœtal cranium to be sufficiently diminished by the uterine action, to pass, though compressed to the utmost, through the slit formed by the pubes in front, and the unyielding structure of the tumour behind; while the pelvis was so filled inferiorly and superiorly, that the introduction of the fingers and part of the hand, to reach the very high os uteri, and to direct the blades of the perforator or osteotomist, was concluded to be impracticable, or necessarily accomplished with so much violence as to be imminently dangerous.

A proposition was made to incise freely the posterior wall of the rectum, where it passed in front of the tumour; through the opening, to introduce a perforator, or other instrument, break up the structure of the tumour, and after evacuation of its contents, to wait the effect of the uterine action, in expectation that it might force down the unopened head into the then increased cavity of the pelvis.

This proposal was offered in the belief that the tumour was connected with the bone, and was most probably of osteo-sarcomatous structure; but was objected to and declined, because the shock of such an operation, the almost certainly great hemorrhage, the laceration of the sacral nerves, which, on the supposition on which the operation was offered, necessarily passed through the substance of the tumour; or a combination of all those consequences, was sure to occur, and either immediately or very soon, would *inevitably* destroy the patient; and would *positively* sacrifice the child.

It being found impracticable to dislodge the tumour from the pelvis; without probable fatal violence to the mother, to break up the child, or the substance of the tumour; and the extensively solid structure of the latter being supposed to render puncture unavailing, the Cæsarean section was conceived our only resource.

Considering, however, the great hazard to the mother from that operation, and balancing all particulars between it, and the practicability, difficulty and danger of

embryulcia, with the destruction of the child by the latter, it was finally agreed, that, if on examination the child should be found alive, preference should be given to the Cæsarean section: as by it there would be nearly certain safety for the child, while if the disease were malignant, it signified little to the mother what operation was performed. Employment of the stethoscope decided that the child was alive.

All the particulars of the case being explained to the patient and her relatives, they immediately assented to be guided by the recommendation of the medical attendants.

"The bladder," says Dr. Lyon, "having been with some difficulty emptied by introduction of the catheter, the preparations were in a few minutes completed. While the patient lay on her back in bed, and a large fold of skin was held up over the lower half of the linea alba, I pushed the scalpel through the fold, and allowing the skin to resume its place, I had an incision six or eight inches long in the median line of the abdomen. I now carefully divided a small portion of the tendinous tissue over the projecting fundus uteri, and perceiving through the translucent peritoneum, that no portion of intestine intervened between the membrane and the uterus, opened the abdominal cavity, introduced two fingers, and holding them apart, to act as directors to the knife, and so as to feel if any of the abdominal contents were in the way, I carried the knife downwards to within half a hand-breadth of the pubes, and had thus an incision through the entire parietes, of eight or ten inches in length.

"The whole was the work of a few seconds. The anterior part of the fundus of the dark red uterus being divided, the circular fibres contracted strongly, and drew widely asunder the margins of the copiously venous-bleeding wound, which, by a few touches of the knife, was deepened until the uterine cavity was entered; when carrying the fingers as before, the incision in the uterus was made of nearly equal size to the wound in the abdominal parietes. Observing that there was little, if any, liquor amnii, the membranes were quickly ruptured, and the limbs and body of the child taken hold of; but so rapidly and forcibly did the uterus contract around the head, that it was not until I had slid down my left hand behind and below the head, that I was able to lift up and extract the large, and immediately vigorously crying child. Dr. Macfarlane grasped the uterus as the head of the child was being withdrawn, when the placenta was almost instantly extruded and removed.

"At this time portions of the intestine protruded over each side of the abdominal incision, and were covered with soft towels wrung out of tepid water, which, in anticipation of being required, had been kept in readiness.

"Only small quantities of blood escaped from any of the incisions, not more than three or four ounces being altogether lost. Dr. Macfarlane continued to grasp the uterus until the portions of intestine were returned, an act which was easily and expeditiously effected. The margins of the divided abdominal parietes were then held together, and retained by seven or eight points of interrupted suture, so inserted as not to include the cut edges of the peritoneum, and the sutures were supported by strips of adhesive plaster, compresses, and a broad bandage.

"I do not think the whole procedure, dressing included, occupied more than eight or ten minutes; the patient did not complain much, her pulse never in the least flagged, and immediately after the dressing, and for three-quarters of an hour afterwards, only numbered 84, and was of good strength.

"Immediately after the operation, she had two grains of opium, and a similar quantity was ordered to be repeated every two hours, *until sleep was obtained*, all of us supposing it of the utmost consequence to abate pain, procure sleep, and thus diminish irritation for a considerable time after the operation, as by so doing it was conceived the best chances were afforded for preventing collapse, or, if reaction took place, for averting inflammation.

"She was likewise ordered to avoid every unnecessary motion, and only to use the smallest quantities of drink, or food.

"Mr. Young agreed to remain with her during the night, and the rest of us left about three-quarters of an hour after the operation.

"I visited her with Mr. Young on the following morning; the first glance gave convincing proof of an unfavourable change, her aspect being haggard, sallow,

and expressive of distress. She had not slept, had vomited, felt uncomfortable, and been restless. She was now perfectly sensible, very weak, cold, and exceedingly distressed. Her pulse was small, soft, and rapid, the abdomen free from pain, but tympanitic, and the bandage and sheet *were soaked with blood.* I immediately removed the bandage, when blood oozed copiously from the lower part of the wound, but I could not ascertain whether it had flowed from the abdomen, or from the vessels in the cut parietes. There was no dullness on percussion, which there would have been if much extravasated blood had been present, and there had not been more than slight vaginal discharge, which likely would have been the case, had there been copious hemorrhage, whether proceeding from the abdominal parietes, or from the cavity or substance of the uterus.

"Seeing the depressed and apparently hopeless condition of the patient, I contented myself with an application of a thick compress over the source of oozing, —application of a dry bandage, and the recommendation to give frequently small quantities of wine.

"When I saw her at night, there had not been any farther bleeding, but all the unfavourable symptoms were aggravated; and she died next morning, having lived 36 hours after the operation.

"*Autopsy, forty-eight hours after death.*—Countenance sunken, and surface of body completely blanched.

"No adhesion of lips of wound in abdominal parietes; no blood in peritoneal cavity; no appearance of inflammation having existed.

"Uterus about the size of a cocoa-nut, lay with the os immediately above and behind the pubes, and fundus directed to left ilium. The wound, now diminished by contraction of the organ to four or four and a half inches in length, was seen anteriorly; its external margins were separated a quarter of an inch, and the internal were in contact, but not adherent.

"Upon drawing aside the uterus, the brim of the pelvis, from the promontory of the sacrum to the symphysis pubis, was found almost entirely occupied by the superior surface of the tumour, there not being more free space (about three-quarters of an inch) than permitted the open hand, held with its dorsal and palmar aspects anteriorly and posteriorly, to be pushed downwards behind the bladder.

"Upon *now* pressing the tumour strongly. and grasping it to ascertain its connections, it felt *indistinctly* movable, but could not be displaced. The vagina, so much elongated as to permit the os uteri to remain at the upper part of the narrow space between the pubes and sacrum, was therefore cut across, in order to obtain a better view of the tumour and interior of the pelvis; but upon drawing the uterus upwards, the fundus was found to be held down by the left lateral ligament, and upon closer examination, the left ovarium could not be perceived. The enlarged and thickened left lateral ligament was traced downwards, when it was found to wind to the outside, and then behind the lower part of the sigmoid flexure of the colon, and superior portion of the rectum, where it was attached to the tumour filling the pelvis. Considerable traction was made, by taking hold of the uterus; but the part to which the left lateral ligament was attached could not be brought into view. Guided by the stretched ligament, the hand was passed behind the rectum, and behind and before the tumour; where lacerating adhesions, and at same time pulling by the uterus, the tumour suddenly, and with a clunking sound, slipped out of the pelvis.

"It was of irregular ovoid form, as large as the full-grown fœtal head, and of firm, almost cartilaginous consistence. Upon dividing its thick cartilaginous parietes, several cysts, also with cartilaginous walls, were exposed, and likewise a considerable thickness of *solid*, homogeneous structure, probably the normal substance of the ovarium. The main bulk of the tumour was formed by a large cyst filled with a mixture of adipocere-like matter. hairs, bones, and part of the foot, of a seemingly full-grown fœtus, of which I possess a portion, covered with normal integuments, and with two of the toes and their metatarsal bones attached. We had no means of ascertaining either the *exact* weight or measurements of the tumour. The cavity from which the tumour had been withdrawn had well-defined limits, and was narrowest at the neck or entrance, much like a hernial sac. It was bounded posteriorly by the pelvic fascia, anteriorly by the rectum, and in front and at the sides of that intestine by the peritoneum, forming the meso-rectum.

It appeared as if the ovarium, having slipped behind a fold or depression of the meso-rectum, had gradually fallen downwards between the two layers of that membrane, and pushed the rectum to the front. The tumour had been retained in the situation which it has been described as having occupied, by forming adhesions with the internal surface of the peritoneum forming the meso-rectum, and also with the surface of the pelvic fascia."

Mr. Lyon, in his remarks on this very curious and interesting case, observes, "in our ignorance of all minute particulars of the history, different opinions will be entertained, as to whether, and if, as to when, impregnation of the contained ovum occurred. It will be well, however, for a practical purpose, to bear in mind, that for anything we know to the contrary, a perfect child, or at all events a child evolved at the same time as another contained in the uterus, may be met with in a similar situation as the one we operated for.

"But we suppose the fact of repeated retention of urine, during the six years antecedent to the operation, and the presence of the large quantity of adipocere-like matter, coupled with the remains of cuticular, tendinous, and osseous matters, will lead many to believe, that conception of the fœtus found in the ovarium, preceded a long time that of the child for delivery of which the operation was performed. This opinion, which might question the chastity of our patient, she having been only married about nine months previous to the operation, we deem inconsistent with the confidence reposed in the surgeon by the patient, to discuss, and at the hazard of having our professional knowledge impugned, will prefer adhering to those who may insist, that the matters found in the ovarium were the remains of an irregularly and imperfectly developed ovum, vitalized consentaneously with the fœtus in utero; or, that they were not the effect of impregnation at all, but produced by some partial and abnormal action; or, like the masses of hair, teeth, &c., not unfrequently found in the ovaria, and other organs; or the fœtal remains in the abdomen and testicle of the male,* and like them are proofs of the presence of an ovum by inclusion, at an early period of intra-ovarian, or in some of the cases it may be of intra-uterine life.†

"Whilst I state these explanations, I am perfectly aware of their real value, and suppose they will be considered better fitted for enabling a casuist to extricate himself from a dilemma, than to convince the cautious and judicious physiologist."

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61. *Contagiousness of Puerperal Fever and its connection with Erysipelatous and Phlebitic Inflammation.* Dr. Peddie read to the Medico-Chirurgical Society of Edinburgh, Nov. 12th, 1845, a series of cases, illustrative of the contagiousness of puerperal fever, and its intimate connection or association with erysipelatous and phlebitic inflammation.

He had felt it to be his duty to communicate the facts connected with these cases to the profession, as, besides being important in a pathological respect, they might perhaps contribute in some degree to avert hazard from a most interesting class of patients, and preserve to the medical man that peace of mind and prosperity in practice, which might otherwise be interrupted. While candour required this course, he felt assured of obtaining sympathy on account of the painful situation in which he had been placed; and that though the unfortunate medium of spreading a fatal disease, no larger share of blame would be imputed to him than appeared due, when the history of these melancholy cases had been carefully considered.

Case 1st.—Mrs. S., aged 32, previously weak in health, and depressed in spirits, entertaining a presentiment of approaching death, was delivered on the 2d September, after an easy labour. She was not carefully nursed; was seized on the third day with fever, which soon assumed the principal features of the malignant adynamic type, as described by Locock and others; and died on the 10th—the eighth day from her accouchement.

Case 2d.—Mrs. W., aged 23, a poor woman; attended for another practitioner, at that time out of town. She was a very delicate person, and predisposed also to fever by a strong presentiment of death; was delivered after a very easy labour,

* Histoire des Anomalies, par St. Hilaire, ed. 1836, tom. iii. p. 307.

† Ibid., p. 308, 312. *Vide* also Monthly Journal, for 1845, p. 553, and p. 657.

although her first child, on the 7th September, and afterwards transferred from Dr. Peddie's care. She had begun to complain on the third day, and died on the 13th —the sixth day from her accouchement—with all the symptoms of the adynamic fever, complicated with much intestinal irritation.

Dr. Peddie was not aware of this person's illness and death, until after he had delivered his next patient.

Case 3d.—Mrs. K., aged 25, also delicate, and in extremely low spirits, was delivered on the 14th September, of her second child; labour natural and easy; fevered on the 16th; her case afterwards presented nearly the same features as those in Case 1st; and she died on the 21st—seven days from the period of her confinement.

On the appearance of fever in Mrs. K.'s case, and finding that no epidemic prevailed, Dr. Peddie perceived that a contagious puerperal fever had broken out in his practice, and immediately consulted with several medical friends as to whether he should now for a time give up all obstetric engagements. The advice received, was to comply as usual with the next call for attendance, but to adopt every possible precaution against the transmission of the virus farther. Accordingly, by assiduous attention to sprinkling and washing with the solution of the chloride of lime, proper arrangement of visits, and change of garments—not forgetting even the gloves and handkerchief—he secured the safe delivery and recovery of three patients—the first on the 19th, the next on the 22d, and the last on the 25th of September. That none of these patients showed the smallest tendency to fever, was the more satisfactory and encouraging, as the first and last were rather delicate, and the other was sister to Mrs. S., (Case No. 1,) who died only twelve days previously, and with whom she was much in contact. This, too, was the more singular, as she was in a state of so much alarm in the prospect of her own approaching hour of trial, as to be seized with labour rather prematurely. Dr. Peddie's anxious fears regarding the farther propagation of the disease were thus lulled into security; and he felt disposed to view the occurrence of three consecutive cases of fever as one of those remarkable coincidences with which medical men occasionally meet; or if they really were instances of contagious fever, that the virulence of the morbific influence was exhausted, or could be overcome by the adoption of precautions. These sanguine hopes, however, were soon distressingly disappointed by the occurrence of the two following cases in rapid succession.

Case 4th.—Mrs. T., aged 29, was delivered of her second child at 12 noon, on the 26th of September. Resided a few doors from Mrs. K., (Case No. 3,) whom she attended on the evening of her confinement, and visited frequently until the fever showed itself, and again on the 18th, although strictly prohibited, when she assisted in effecting a change of clothes and bedding. She was afterwards likewise exposed to contagion from the constant intercourse of friends between the two dwellings. Her labour was very easy, and she had every appearance of doing well, until next day at 12 o'clock noon, when she fevered; and death occurred in the evening of the 30th—the third day from the period of accouchement.

Case 5th.—Mrs. T., aged 23, was delivered of her first child at 12 o'clock noon, on the 27th September, after a natural but rather tedious labour. It was completed some hours before Dr. Peddie had an opportunity of knowing that his last patient (Case 4), had been seized with the fever; and on making his evening visit, he found that she too was already affected with the dreadful malady. Death took place at 3 A. M. on the 30th, less than three days from the time of her confinement.

Dr. Peddie considered it beyond question, that Mrs. T. (Case 4), had obtained contagious fomites from his last fatal case (No. 3); and while herself affected therefrom, had communicated the virus anew to his person, who conveyed it unconsciously to Mrs. T., (Case 5th), in whom it was developed almost from the moment of parturition.

Dr. Peddie now abandoned the practice of midwifery; was confined at home for several days, being much indisposed with sore throat, fatigue, and anxiety; took medicine, and the warm-bath; exposed the clothes worn at all these cases in an airy chamber, and sprinkled them from time to time with the solution of the chloride of lime; and went into the country for eight days, four of which were

spent at the sea side, and four on an excursion into Perthshire and Stirlingshire. A fortnight, less one day, thus elapsed before Dr. Peddie resumed practice, and accepted (on the 13th October) the next obstetric call, in consequence of urgent solicitation. Dr. Peddie entered into a minute detail of the symptoms of this case (Mrs. M.'s, aged 30, first child), which unhappily proved fatal on the 24th October—eleven days from the period of her accouchement; and he gave it as his own opinion, after much careful consideration, that he could not persuade himself of its having been a case of contagious puerperal fever, as there was a total dissimilarity in symptoms and mode of termination from the preceding characteristic cases, and as she had been in a most critical state of health for a considerable time previous to labour, with ulceration of the bowels, dilatation of the heart, and general debility. Dr. Peddie, however, stated, that lest his opinion was incorrect, he had felt it to be his duty to withdraw from midwifery practice for some time to come.

After some remarks on the nature of puerperal fever, and the opinion of authors concerning it, Dr. Peddie narrated several cases of erysipelas, phlebitis, and peritonitis, attended by him at the same time, and mixed up with his puerperal cases. From one of these, he thought it probable that the animal poison, producing the line of disastrous events in the accouchement chamber, originated; and referred, in proof of this opinion, to parallel instances related by Mr. Stow, of Doncaster, in the Provincial Journal, No. 166, 1843. The subject was a gentleman with a gangrenous erysipelas, spreading from sinuses surrounding the right hip joint, which took their origin from a mismanaged bubo, and a much impaired constitution. It was the most malignant case of the kind ever witnessed by Dr. Peddie—proving fatal on the 13th September, after the body had become deeply jaundiced, and large purulent deposits, with considerable emphysema, had formed in the right knee and left shoulder joints, as also among the muscles of the right forearm. This patient required dressings twice daily on account of the profuse discharge of dark-coloured fetid matter from the sinuses; and it was while attending him, although ablutions were regularly performed, that Dr. Peddie delivered Mrs. S. and Mrs. W. (Cases 1 and 2), and, on the day following his death, Mrs. K. (Case 3.)

Dr. Peddie then gave an account of several cases *of disease undoubtedly originating from the puerperal fever case*, (No. 3,) thus affording a reflex proof of the existence of a puerperal contagious virus affecting non-pregnant individuals, according to their special circumstances. One of them, a lady's nurse, who assisted frequently at Mrs. K.'s, was seized on the 25th September with fever—the symptoms at first being chiefly referable to the abdomen, and then to acute phlebitis of the right forearm, from which she had been bled, and died delirious on the 2d October. Another was a nurse, who had acted occasionally at Mrs. K.'s, had also waited on the sick nurse for one day, and had visited Mrs. T., (Case 4,) on the afternoon of her confinement, was affected with erysipelas of the head and face, from which she recovered with difficulty. And a third was an old lady who was lodging in the house of the lady's nurse, with whom she took fever simultaneously, which, however, in her case proved to be mild. It was also remarked, that almost every individual who had visited at Mrs. K.'s during her illness, complained soon afterwards of one kind or another, particularly with slight feverishness and sore throat; and it was at this time also that Dr. Peddie himself became affected in the same way.

Dr. Peddie concluded his communication, by stating the following as the principal points which he thought the facts mentioned seemed to prove:—

1st. That a specific virus, of an animal nature, is produced under certain circumstances, and in turn generates a peculiar form of fever in the puerperal state.

2d. That a virus frequently originates from erysipelatous inflammation.

3d. When once generated, it may be communicated from one lying-in patient to another with extraordinary virulence, quite independently of locality or epidemic influence, either by direct intercourse, or through the medium of a third person; and that this is more likely to happen when the predispositions of a weak body and a depressed mind exist.

4th. That it may also produce disease of various kinds in non-puerperal individuals, more especially of an erysipelatous and phlebitic character.

5th. That the treatment of a contagious puerperal fever, whether directed by

theoretical opinions, or the indications of physical signs, proves of little avail; but that if any theory is to be entertained respecting this malady, it should be that something of a specific and morbific nature requires to be thrown out of the system, and the powers of life at the same time sustained; and that the practice which holds out the greatest prospect, small at best, of this being accomplished, is the adoption of the diaphoretic and stimulant plans, according to the stage of the disease.

6th. That the principal concern of the medical man should be (seeing that a cure is so rare) to adopt every conceivable precaution against the occurrence of a single case of the disease, or to lessen the risk of its propagation when once established in his practice. And to attain these ends, patients in child-bed should either not be attended at the same period with cases of malignant or severe erysipelas, or that proper caution should be observed as to ablutions, more especially after contact with any discharge from such patients; and when a case of puerperal fever does occur, chlorinated ablutions should be used; and if a second occur, he should withdraw from obstetric practice for two or three weeks, if possible; and in the interim attempt, by removal into the country, warm-baths, and other alterative and purifying means, and by the exposure of clothing to a free atmosphere or high temperature, to rid himself of the subtle and powerful virus, which adheres to him so tenaciously.—*Northern Journal of Medicine*, Jan., 1846.

62. *Puerperal Fever—Death of Husband from somewhat analogous Symptoms.*—The following case, related by Dr. Jas. Reid, (*London Med. Gazette*, Nov. 28th, 1845,) is interesting as supporting the views of Dr. Storrs of which we gave a notice in our last number, p. 245.

Dec. 12th, 1844.—Sarah Bell, residing in Mary St., Hampstead road, was delivered of a female child, at 5 P. M., it being her first confinement. The gentleman who attended her, Mr. Lee, went to her immediately after delivering another patient, who afterwards died likewise of virulent puerperal fever. On the 13th, the patient complained of slight pain in the bowels, for which a dose of castor oil was administered. On the 14th her face was pale and anxious; she complained of pain recurring at intervals in the abdomen, the slightest pressure on this part increasing it; pulse 100; bowels acted on by the aperient, and the lochial discharge free, as was also the secretion of milk. The patient was naturally of a very weak constitution. Mr. Lee ordered for her ℥xxx. tinct. opii, with the same quantity of sp. ammon. arom. every four or five hours, but the pain was found on the next day (15th) to have increased; the pulse was 120, her countenance very anxious, and there was a tendency to diarrhœa. She took gr. ij of calomel and half a grain of opium every three hours; cataplasms were constantly applied to the abdomen, and six leeches to the most painful part. I first saw her on the 16th, when the symptoms continued much the same; she had lost the power over the sphincters, and her pulse was very quick: the same remedies were continued, and as much nutriment given as she was able to take, and on the succeeding morning she was apparently better, not complaining of pain unless she moved, and even then it was much less. She had slept for some time; the pulse was not so quick, and the tongue moist, but still she had no power over the bladder and rectum; she became much worse towards the evening, and expired on the morning of the 18th.

The husband of this patient was observed by Mr. Lee to look very ill on the 14th, he having had no other room or bed to go to but that on which his wife lay, and he had had little or no sleep since her confinement. He was of very delicate constitution, and complained of great lassitude, headache, and pain in the back and limbs; his bowels were confined; the tongue was furred in the centre, red at the edges, and quite dry. His pulse was quick and small, and his countenance had a distressed expression. As he had to lie in the same bed with his wife, Mr. Lee obtained admission for him into the University College Hospital. Shortly afterwards, sloughing of the scrotum took place, and pain and swelling in joints accompanied it. He did not survive many days, and on examination I understand that a dark-coloured pus was found in the joints. This, though a rare case, is not a singular one, as similar instances have occasionally been narrated, in which the low typhoid or erysipelatous symptoms were propagated by contagion (as I believe was the case in the present instance) from the puerperal patients to the attendant or relation, who had been constantly with them.

63. *Prolapsus of the Cord, and escape of Meconium, without death of the child.*—Dr. Kisker relates a very interesting case of labour, in which a considerable portion of the umbilical cord became prolapsed, and remained so until his arrival, which was not for an hour and a half afterwards; the woman had a narrow pelvis, and in her previous labours had always required medical assistance to be delivered. Upon his arrival, on the present occasion, Dr. Kisker found the os uteri fully dilated, the head engaged in the cavity of the pelvis, the prolapsed portion of cord no longer pulsating, and meconium escaping; this latter circumstance especially seemed to indicate the death of the child. By means of the forceps, however, he delivered the child as speedily as possible, and in spite of the above unfavourable signs he soon had the satisfaction of seeing it revive from the half dead condition in which it was when first born.—*London Med. Gazette*, Nov. 14th, 1845, from *Casper's Wöchenschrift*, June, 1845.

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64. *Treatment of unavoidable Uterine Hemorrhage.*—The propriety of the treatment of certain cases of placenta prævia by the delivery of the placenta before the child, as recommended by Prof. Simpson, continues to be a subject of discussion in the British Journals. In the following articles we give the substance of the more important facts and arguments which have been adduced pro and con during the last three months.

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65. *Placenta Prævia—delivery of the Placenta before the Child.*—Dr. Jas. Reid records (*Lond. Med. Gaz.*, Nov. 28th), a case of placenta prævia, attended with severe flooding; on the placenta being expelled, the hemorrhage immediately ceased, and there was no subsequent recurrence of it. The midwife who was sent for did not arrive until *more than an hour had elapsed*, after the expulsion of the placenta, when she found the infant presenting with the feet, and in a short time it was with manual assistance removed.

Mr. R. Forester Wells relates (*Lancet*, Nov. 8th, 1845), the following case, in which he adopted Dr. Simpson's practice with success.

"Margaret C——, aged thirty-six, a sickly-looking Irishwoman, at the beginning of last May, then about the fourth month of her eleventh pregnancy, was attacked with uterine hemorrhage which continued, with very little remission, until the middle of June, and then left her in a very prostrate state. At ten o'clock, A. M., of Friday last, the liquor amnii was spontaneously discharged, without the occurrence of any pain; and at three o'clock, A. M., of the following day, she was seized with hemorrhage to a very alarming extent; at four o'clock I was requested to see her. She was in the usual obstetric position; the surface of the body cold and clammy; the complexion sallow; the lips and tongue quite blanched; the pulse at the wrist scarcely perceptible and very rapid; and the voice scarcely audible. Upon examination I found the vagina filled with coagula, the os uteri dilated to about the size of a half-crown piece, and, notwithstanding the hemorrhage, rather rigid, and the placenta implanted centrically over it. Considering this is a case in point, I determined to put in practice the plan of separation recommended by Dr. Simpson; I passed two fingers between the placenta and cervix, and with some difficulty separated it completely all round, and at the same time ascertained that an arm was the presenting part: as there was no pain, and the uterus appeared in a perfectly inert state, ʒss of the ergot was administered in brandy, and cold was applied to the vulva. Upon examining at the end of an hour, there had been no return of the bleeding; the os uteri was in the same rigid state, but the placenta had been forced lower down, and protruded somewhat into the vagina; there being no pain, and it still being impossible to turn the child, ʒss of the ergot was administered every hour until four doses had been taken. On seeing her again at nine o'clock, the ergot not having produced any effect, a fourth part of an infusion of ʒiij, with dilute sulph. ac., was administered every two hours. At two o'clock, P. M., pains having recurred as I was out of the way, the gentleman who had the charge of the case attended, and found the placenta in the vagina, and a leg and arm descending: the leg was brought down, and the delivery speedily accomplished, the placenta immediately following the head. The child, a male of about eight months, uterine age, had apparently been dead some days; the patient is progressing satisfactorily, although it

must be some months before she recovers from the effects of this excessive bleeding. The usual practice in such cases has been to turn, but here that was utterly impossible from the state of the os uteri, and yet ten hours elapsed from this most alarming attack of hemorrhage, and the period when that operation could be performed with safety; the consequences to this poor creature could not have been otherwise than fatal, had that been waited for, and that, too, in all probability, previous to the delivery.

"I have met with six other cases of placenta prævia; three of them complete, and three partial. In one of the complete cases the woman died a few minutes after the performance of artificial evolution; and in a second, about ten days after delivery; the third was successful to the mother. Two of the three children were dead. In the three partial cases rupture of the membranes stopped the bleeding; in one case craniotomy was subsequently performed on account of deficiency of space in superior aperture of pelvis, and the woman had a protracted recovery after phlegmasia dolens; the other two women did well; all the children were dead. I have another case in my note-book—but I cannot so well authenticate it—where the woman was seized with flooding at the sixth month of pregnancy, and expelled the contents of the uterus *en masse;* I was not present until half an hour after the birth; but a woman of experience in such matters, who had assisted her, told me the placenta came first.

The following case communicated by Mr. Geo. Brown, is contained in the *Lancet*, (Dec. 27.)

"On the evening of November 17th, I was hastily summoned to Mrs. W——, whom I had attended about fifteen months ago, in a premature labour of her first child, at the seventh month of gestation; and who, I understood, was now advanced to about the same period of this her second pregnancy. Upon my arrival, I was informed, that hemorrhage to a considerable amount had taken place, and this statement was fully confirmed by the appearances which met my view on entering her room. Upon making an examination per vaginam, I ascertained that the flooding still continued, and resulted from a nearly complete presentation of the placenta over the os uteri; I say "nearly," for it covered the uterine surface more extensively at its posterior part than anteriorly. The os uteri was dilated to the size of half-a-crown, but so extremely rigid, that I could not insert two fingers within it, nor was there any probability, as far as I could judge, of its yielding to any attempt at dilatation, that could with safety be applied. Under these circumstances, what plan was to be pursued? As it was impossible to turn the child, (the usual course in these cases,) from the extreme rigidity of the os uteri, I proceeded to rupture the membranes, at the anterior part just under the arch of the pubes, where alone they could be felt; but this failed in arresting the hemorrhage, for with every return of uterine action, the blood continued to pour forth with unabated violence. It became now plainly evident, that delivery must be brought about, and having been led to believe, from several circumstances which the patient described to me, that the fœtus was dead, I judged that this was a favourable opportunity for testing the correctness, or the contrary, of Dr. Simpson's views upon this subject. Accordingly, without the least difficulty, I, with the forefinger of my right hand, separated the entire placenta from the uterine surface, and almost immediately the hemorrhage ceased. The pains still continuing, and the os uteri yielding to the pressure of the placenta, the latter was protruded into the vagina; but now uterine action gradually diminished, and shortly afterwards was entirely suspended. During three hours, my patient remained quite free from pains, nor did the slightest hemorrhage take place during that period. At the expiration of that time, finding the head presenting, and there being no obstacle to the exhibition of the ergot of rye, I administered the usual dose, and the uterus speedily resumed its wonted parturient functions. In a few minutes, a seven months fœtus was expelled, followed by the placenta, which had been pushed by the child, in its passage, into the bottom of the sacrum. Judging from appearances, the child had been dead upwards of forty-eight hours. These are the leading facts of the case. Like the majority of my medical brethren, I have a natural objection to desert old and well-established rules of practice, for novel, and what might be considered dangerous innovations: but this case, being in several respects peculiarly suited for the adoption of the new plan, I considered

myself justified in testing the validity of Dr. Simpson's views, and so far as one case can confirm what he has advanced, I think the preceding worthy of the attention of your numerous readers, supporting as it does those opinions.

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66. *Treatment of Placenta Prævia by turning.*—Mr. NEWNHAM conceives the proposed plan of detaching the placenta, and then leaving the case to nature, to be so fraught with danger to both fœtal and maternal life, that it cannot be too thoroughly weighed before we venture upon disturbing the established practice.

On consulting the records of his obstetric practice, he finds "there have been *thirteen* cases of placenta prævia since the 1st of January, 1812, and of these, *twelve* recovered perfectly; the thirteenth case was that of a very poor woman, who had suffered much from hemorrhage before Mr. N. saw her, whose external circumstances were as wretched as possible, who had been borne down by the affliction of a large family and a bad husband, and by want and misery in every shape: she was a picture of woe and emaciation, and, to Mr. N.'s surprise, she lived two hours after she was delivered. In this case the turning was undertaken as a forlorn hope, and as an effort to be made to save her, rather than allow her to die without such effort.

"The preceding results," says Mr. N., "were sufficiently satisfactory to me; that twelve out of thirteen should have been saved, while the thirteenth was only waiting to be carried off by the first shock the system might sustain, was a result as favourable as could have been hoped for, and one which I was disposed to attribute,—1st, to my invariable rule, in every case of doubtful hemorrhage, to make myself perfectly certain as to the cause of the flow of blood; 2dly, having ascertained that it was from placental presentation, to lose no time in effecting delivery by turning—to turn at once if the os uteri were sufficiently dilated, or dilatable—and if not, to adopt every possible means to secure this object, and to turn as soon as it was obtained; and 3dly, to the possession of an extremely small hand, which enabled me to do all I had to do with less violence to the mother, and consequently with less present hemorrhage, and less subsequent irritation.

"The above thirteen cases are all that have occurred to me; six of them were under my own exclusive care, and the remaining seven, including the fatal one, were midwives' cases; they are not, therefore, selected cases, or taken from one class of life, but may be considered as a fair sample of country practice.

"I am sorry to say, that I have no record of the number of children born living, but my impression is, that this has always turned upon the presence or absence —the more or less of pain—the more or less of delay in the final expulsion of the child: if the child has been born quickly, it has been born alive, and if much delay has occurred, it has been still-born. I regret the inability to furnish this information the less, however, because the question of treatment can never be referred to the relative danger to the infant, this being unquestionably greater by the modern proposal of first detaching the placenta.

"Such being the result of my own practice, aided by the convictions of all my literary research, I should feel so satisfied with the established mode, that I could not venture upon adopting the more novel treatment, except upon far more enlarged testimony than we at present possess.

"Nevertheless, I can conceive of cases complicated with placenta prævia, as in narrow pelvis, or any other case in which the head is presenting, and it might be ultimately necessary to diminish the size of that head: I can conceive of such a case, in which the early detachment of the placenta might give the opportunity for employing the perforator and crotchet, and might thus afford a valuable resource in circumstances of extreme difficulty. But this is an exceptional case, and the rule must not be deduced from it. In cases, therefore, of *necessary* hemorrhage, the *rule* must still be, turn and deliver as soon as circumstances admit; but when circumstances render this rule impracticable, it is a comfort to be able to fall back upon another practice with the conviction that it may be hopefully employed."—*Lond. Med. Gaz.*, Nov. 14th, 1845.

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67. *Treatment of Placenta Prævia by Plugging the Vagina.*—Dr. J. HALL DAVIS, in some interesting "contributions to the practice of midwifery," (*Lancet*, Nov. 8th, 1846,) expresses his preference for the treatment of *plugging the vagina* in

cases of placenta prævia where the hemorrhage continues after the liquor amnii shall have been discharged, over that of extracting the placenta before the child, as recommended by Dr. Simpson. He has been led to this preference by the results of the cases which he has himself treated and seen treated during fifteen years.

"The plug to be used," he quotes from his father's "Principles and Practice of Obstetric Medicine," "must be sufficiently ample, not only to charge the vagina pretty completely in its ordinary state of capacity, but so effectually to occupy the space within it, as to leave no room for the escape of even the smallest stream of blood from the uterus, a mechanical security not to be attained by merely introducing a few loose shreds of old linen into the *lower* part of the vagina." The author then advises soft sponge as the preferable material for the purpose; and adds—"This tampon also acts as a powerful means of exciting the uterus to contraction by its mechanical irritation."

"The object for which the plug," he remarks, "was applied having been fulfilled—the orifice of the uterus being judged by the character, strength and frequency of recurrence of the pains, to be adequately dilated—it must, of course, be withdrawn, which will be generally within twelve hours, often within five:—The orifice of the uterus now being found ready for our purpose, what will be our next course of proceeding?

"*If the placenta is centrally attached*, the remaining treatment of the case will consist in delivery by turning. The hand should now be passed into the uterus, not by the barbarous procedure of perforating the placenta at its centre, which involves a serious injury of its texture, a return or increase of hemorrhage, and a risk of effecting, after all, the entire detachment of this vascular structure (so strongly advocated by Dr. Simpson), but, by the safer plan, both to mother and child, and the easier route by the side of it. We should discover towards its circumference where it may already have been detached, or where the placental tissue may be thinnest, and there effect our entry.

"*If the placenta is partially implanted only*, the practice should consist of rupturing the membranes, and discharging the waters; but, supposing the hemorrhage might not be arrested by that measure, and the operation of turning not be practicable on account of rigidity of the os tincæ, here I would plug the vagina as in the previous case. After the removal of the plug, its object having been attained, we shall frequently find that the operation of turning will not be required; the head offers itself, is found gradually pressing downwards, and the birth, the pelvis being of good conformation, is speedily accomplished by the natural efforts. On the other hand, if the head remains high up above the brim of the pelvis, and the hemorrhage continues, we proceed to the delivery by turning.

"There are certain items of treatment which it will often be found advantageous to pursue. In the event of restlessness, or any trace of nervous excitability appearing about the patient, or should her rest have been much broken, I am in the habit of exhibiting a full dose of laudanum, and with excellent effect. The patient gets some refreshing sleep, and awakes with a breathing moisture upon her skin, which was not there before; and the action of labour is speedily and fully instituted. In some cases, the os uteri being, though undilated, free from rigidity, I have derived good effects from the exhibition of the ergot of rye, both after the administration of opium, and where that remedy has not been indicated, in hastening the action of labour. But I have not frequently found it necessary to give that medicine at this period of gestation, (the last three months,) the use of the plug not only arresting the hemorrhage, but promoting the action of parturition.

"With regard, again, to the plan pursued by Dr. Simpson, his friends and followers, I am of opinion that it might be advantageous in cases of distorted pelvis, rendering lessening necessary, where nothing could be gained by the operation of turning, by which then the mother would be exposed to a needless jeopardy. But, as a preparatory proceeding, which I should consider a necessary measure of safety to the mother, I would plug the vagina, supposing on my reaching the case, that the orifice of the uterus might not be sufficiently dilated to admit of delivery, even by the crotchet."

"It is in states of os tincæ preventing the easy introduction of the hand, and as an alternative to forced delivery, that I apprehend Dr. Simpson would more par-

ticularly urge the treatment which he advises, and in the cases in which I would myself, as the safest proceeding, adopt the practice of plugging the vagina. In this class of cases, a considerable time would have to elapse between the entire detachment of the placenta—supposing it always feasible—and the birth of the child; and here we should find no saving, I apprehend, of children's lives, and, agreeably to my views of the uterine circulation, no great safety to mothers."

Dr. Davis relates two cases to illustrate the treatment he prefers in placenta prævia, one of which is the following.

Case of uterine hemorrhage under entire implantation of the placenta over the uterine orifice—in the eighth month of pregnancy of a seventh child—treated by the application of the plug—the exhibition of a full dose of opium, and subsequent delivery by the operation of turning.—At the request of Mr. Jones, of Berners-street, I was called, Sept. 27th, this year, to the case of Mrs. ——, aged thirty, in the eighth month of her seventh pregnancy. Slight pains had commenced, between six and eight A. M., with hemorrhage, which had latterly become profuse; she had flooded on the previous day, and had had a previous attack of flooding a fortnight before. I was informed by my friend, prior to my arrival, that on the previous day he had felt the placenta presenting. I visited the patient immediately (mid-day) and found the condition of things such as had been represented. The mouth of the womb was then dilated to the diameter of half a crown; it could scarcely be said to be rigid; it was not possible, however, to effect the introduction of the hand, without risk of contusing or lacerating the parts. I might easily, I have no doubt, have effected the separation of the placenta with the index finger, had I chosen to do so. The patient was pallid; had a quick and frequent pulse; the hemorrhage was continuing. I obtained several pieces of soft sponge, which I cut into smaller sections; these I passed into the vagina, packing, successively and *completely*, the upper, middle, and lower portions of the tube; a broad belly-band was applied, secured in its position by a cross piece, fixed to its mid-point behind and in front, and passed over the vulva. One drachm of laudanum was exhibited. At half-past four, four hours from the introduction of the sponges, good bearing pains had supervened, and the patient had slept; there was a breathing moisture upon the skin, which was not there before. I removed the plug, which had been quite efficient, only those portions of sponge in contact with the uterine mouth being tinged with blood; and now passed my hand readily into the uterus, separating the placenta, as I proceeded on one side of its attachment, and only to the extent sufficient for my purpose of securing a foot. Coursing my hand upwards, outside the membranes, I grasped a foot, ruptured the membranes, and at once and without difficulty accomplished the turn, and with but little delay the delivery of the child. The child was pallid on its birth and asphyxiated; it rallied under the application of the usual measures, but continued feeble, and died in six hours afterwards under an attack of convulsions. The flooding continuing after the birth of the child the placenta was removed, the uterus contracted, and the hemorrhage ceased. The uterus showing some disposition again to relax, my friend secured his patient by the application of a bandage and compress, and by two or three draughts of cold spring water. To prevent restlessness, likely to ensue upon the loss of blood, fifty drops of laudanum were exhibited, and strict injunctions, which were observed, were left for the rigid maintenance of the horizontal posture. At our visit on the following day there had been no return of hemorrhage; the patient had slept comfortably; the uterus was well contracted; broth was ordered, as the patient was feeble. The remainder of the treatment was judiciously conducted by Mr. Jones, and I am informed by him (Nov. 1) that his patient has recovered without a single bad symptom.

I apprehend that the fatal results which have swelled Dr. Simpson's tables are chiefly due to the delay incurred before assistance is sought; to the practice of forced delivery; to the misunderstanding of the principle of the "plug," a cambric or silk pocket handkerchief, a few dossils of linen, or a sponge pushed up to the os uteri, being thought quite adequate to the purpose. Such plugging is worse than useless, since not only does it allow of a continuing hemorrhage, but brings by its failure, when thus misapplied, a most valuable measure into undeserved disrepute.

The very first moment that we can ascertain the *unavoidable* nature of the hemorrhage, we ought to act. It is our *first* and *imperative* duty in hemorrhage of the last

three months of gestation, if the orifice of the uterus will admit a forefinger, to feel for the placenta, and should we find it *centrally*, ay, even *partially*, attached to the cervix, we ought to engage ourselves actively, and at once, about the safety of our patient's life.

John L. Ion also advocates the use of the plug in similar cases, and relates (*Lancet*, Dec. 13th, 1845), a case of placenta prævia in which he employed it with success.

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68. *On the treatment of cases of Placenta Prævia by removal of the Placenta, and not by turning.*—Dr. Samuel Ashwell has published in the *London Medical Gazette*, Nov. 1845, some very interesting remarks on this subject. "The necessity," he observes, "for disturbing the existing practice arises from the *assumed great fatality to the mothers attendant on turning the child prior to the removal of the placenta.* Dr. Simpson says, the average rate of mortality in placental presentations is 1 in 3; and he strengthens this statement, perhaps not quite fairly, by the declaration of a 'doubt, if the most fatal of all human diseases, the plague itself, be found to destroy so large a proportion of those attacked.' There should be, to render this argument effective, something like resemblance in the things compared; and especially in the number of cases. I cannot believe that this is a correct average of maternal fatality. I have had at least twenty cases of complete placenta prævia, in consultation and private practice, (exclusively at the hospital,) during the last twenty-five years, with only two deaths. In one of these, a patient of Mr. New, of Mile End, the first gush destroyed life; and in the second, two large scirrhous tumours in the walls of the uterus, (vide Guy's Hospital Reports, accompanied by drawing of the growths,) there was gangrenous degeneration.

"My friend and colleague, Dr. Lever, in answer to some inquiries as to our Lying-in Charity at Guy's, thus writes, Oct. 28th, 1835:—'Between the years 1833 and 1840, 4666 women were attended by our pupils. In 14 cases presentation of the placenta occurred; in 9 the placenta entirely covered the os uteri, while in 5 it partially presented: in all, delivery was accomplished by the operation of turning. *Eight* of the children were still-born; in one, the head was unavoidably lessened, owing to the contracted state of the pelvis, (this operation had been resorted to in her previous labour;) *two* of the 14 cases terminated *fatally* to the mother; in the first case the patient's age was 34; it was her *ninth* confinement, and you well remember she underwent the operation of transfusion with temporary benefit, but died the day after delivery. In the other case, the patient's age was 39; it was her sixteenth confinement; she had, previously to the occurrence of labour, been exhausted by two severe losses of blood, without sending for assistance: she died soon after delivery.

"'From Oct. 1840 to Oct. 1845, there have been 11 or 12 cases, but as yet I am unable to say how many were partial or how many complete presentations; neither can I give you the maternal mortality; but I trust, when the table is completed, it will show results as favourable as our first reports.' In one of the two fatal cases alluded to by Dr. Lever, where I transfused, it was our, and the late Mr. Tweedie's conviction, that the delivery was attempted too late, and that even blood itself could not preserve the fast-sinking life of the patient. From extensive inquiries amongst men largely engaged in midwifery practice, I am persuaded that Dr. Simpson's rate of maternal fatality, under this form of presentation, is *far* too high."

With regard to the proposition advanced by Dr. Simpson "that in placenta prævia the discharge issues *principally* or *entirely* from the vascular openings which exist on the exposed placental surface," Dr. Ashwell says, "it would have been well if these orifices and their capacities had been demonstrated. I have never yet seen them, although I have subjected numerous placentæ to examination, both before and after injection: nor have I been more successful when I have carefully peeled off an adherent placenta after death. It is, on the contrary, easy enough to show to the satisfaction of the most incredulous, the great openings existing in the lining membrane of the uterus, exactly opposite the attachment of the placenta, and which are covered by interposed decidua. Into many of these the tip of the finger may be inserted, while their course and extensive communications with the uterine sinuses, full of blood, are evident at a glance. Surely such an organization affords the clearest proof of the *source* of the hemorrhage in pla-

centa prævia. By some unfortunate accident the placenta and the intervening decidua are detached, and as the uterus is full of blood, there is no barrier to prevent its escape; in moderate amount if the detachment be slight, but excessive in quantity if the separation is considerable, and attended with excitement and hurry of the heart's action.

"The most carefully made injections of human placentæ testify to the fact, that their vessels are innumerable and small; just what might be supposed, from the purposes they serve. The fœtal economy at no time requires such a supply of blood as must of necessity be furnished if vessels or orifices existed in the placenta capable of pouring out the vast quantity of blood which sometimes, after one gush, proves fatal to the mother in placenta prævia. I do not believe that the placenta *ever* contains anything like the quantity of blood which is often lost in one or two gushes at the commencement of a placental labour. A few days ago I subjected a placenta, expelled immediately after the birth of the child, to the firmest pressure I could make, without obtaining from it more than two or three ounces of blood; and often I have made sections of this viscus, without discovering more than the blocking up, by partially coagulated blood, of its sponge-like passages. A further corroborative proof of the little probability of bleeding, when the placenta is partially detached, is furnished by the fact, that extensive puncture of its substance by the trocar, when in apposition with the uterus at the fundus, or when implanted over the os, is not followed by hemorrhage. In a case of retroversion of the uterus, published by Mr. Baynham, of Birmingham, he says, 'It is worthy of remark, that notwithstanding the trocar had *twice* perforated the substance of the placenta, *near to the insertion of the cord*, hardly a teaspoonful of blood was lost.' In a case of Mr. Hunter's, of Tower Street, July, 1844, 'where I was consulted, and where it was, for the fifth time, necessary to bring on labour prematurely at the 7th month, the placenta was perforated five or six times, owing to its being over the mouth of the uterus; but neither previously, during, or after labour, was there hemorrhage.' The very continuous sound emitted by the blood as it passes from the uterus to the placenta, strengthens the conviction that it is by numerous small vessels, and not by large trunks, that the vascular communication is maintained. But I forbear to occupy further space on this part of the subject; only remarking, that Dr. Lee's observations, at page 1106 of your Journal, are, in my estimation, altogether unanswerable."

With regard to the new practice Dr. Ashwell expresses the fear that it has far more of novelty than of safety for its recommendation, though Dr. Simpson does not press its *universal* adoption. Dr. Ashwell says, he "can scarcely understand how, through a rigid, small os uteri, the oftentimes bulky, and, according to Dr. Simpson, higher vascular placenta, can be brought without incurring the certainty of large hemorrhage. *I can suppose*, that when the liquor amnii has fully escaped, and the placenta has been, whether safely or not, removed, further hemorrhage may be stayed by contraction; for, as the uterus has thus got rid of a considerable portion of its contents, contraction to a greater or less extent will of necessity ensue, the restraint of further bleeding being thereby secured. But is there no danger in this meddlesome midwifery? Is there no risk that the finger-nail, the common sound, or the bougie, as recommended to be used by Dr. Simpson, may wound the developed and highly vascular cervix, originating excessive hemorrhage at the time, or protracted bleeding afterwards? If all this may be safely done, why may not one finger, used as a dilator, make way for the introduction of a second, and a third, and, eventually, of the whole hand, for the purpose of turning? I have often commenced the process of dilatation when the ring of the os uteri has seemed as hard and as rigid as cartilage, and yet in no instance have I failed, and generally in a moderate time, to accomplish a full and safe dilatation; thus affording to the child at least, and, as I think, to the mother also, a higher chance of life, and greater immunity from danger. The generally fatal cases are those where one or two large gushes at once deprive the mother of almost all chance of life; or where the repetition of hemorrhage has been disregarded too long; where, as in the middle and higher classes, early and vigilant attendance is afforded, the favourable moment for commencing dilatation may usually be seized."

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

69. *Paralysis from Monkshood.*—"I was consulted many years ago respecting a case of hemiplegia, caused by eating the root of monkshood by mistake. The more immediate effects had been numbness and palsy of the tongue, followed by apoplexy, and a state of the cutaneous and mucous surfaces closely resembling that existing in fully developed purpura hemorrhagica. The apoplexy had been either associated with hemiplegia from the commencement, or the latter rapidly followed it. The patient, aged about twenty, ultimately recovered, and I lately saw him without any remains of the paralytic affection, which, however, had continued during two or three years. Paralysis from this class of powers generally affects the powers of sensation more or less remarkably."—*Copland's Dictionary, Part* 10. T. R. B.

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70. *Life Assurance.*—One of the terms of the policy was, that it should be void, if anything stated by the assured, in a declaration or statement, given by him to the directors of the insurance company before the execution of the policy, should be untrue. In this declaration, the assured stated that "he was at that time in good health, and not afflicted with any disorder, nor addicted to any habit tending to shorten life; that he had not, at any time, been afflicted with insanity, rupture, gout, fits, apoplexy, palsy, dropsy, dysentery, scrofula, or any affection of the liver; that he had not any spitting of blood, consumptive symptoms, asthma, cough or other affections of the lungs, and that one T. W. was at that time his usual medical attendant." It was urged on the part of the defendant, that the above was untrue, in this, viz., that at the time of making the declaration, he had spitting of blood, consumptive symptoms, an affection of the lungs, an affection of the liver, and a cough of an inflammatory and dangerous nature; that he was thus affected with a disorder tending to shorten life, and that he had falsely averred that T. W. was his usual medical attendant. The defendant proved on the trial, that about four years before the policy was effected, the assured had spit blood, and had subsequently exhibited other symptoms usual in consumptive subjects, and that he died of consumption, three years after the date of the policy. The judge, in summing up, read over the several issues to the jury, and in the course of it, stated to them, that it was for them to say, whether, at the time of his making the statement set forth in the declaration, the assured had such spitting of blood, and such affection of the lungs and inflammatory cough, as would have a tendency to shorten his life. It was held, that this was a misdirection, *for that, although* the mere fact of the assured having spit blood would not vitiate the policy, the assured was bound to have stated that fact to the assurance company, in order that they might make inquiry, whether it was the result of the disease called spitting of blood.—*Geach* v. *Ingall*, 14. *Meeson and Welsby's Exchequer Reports.* T. R. B.

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71. *On the Solubility of Oxide of Lead in pure Water.*—By Lieut.-Col. Philip Yorhe. In a previous paper, Col. Yorhe has stated as the result of his experiments, that from 10,000 to 12,000 parts of pure water, free from access of carbonic acid, dissolved one part of oxide of lead. Bonsdorff has since confirmed these; he found that 7000 parts dissolved one part of the same. Since that time two papers have appeared on the same subject, one by Dr. Christison, and the other by Mr. R. Phillips, Jr. The latter considers that the oxide of lead is not dissolved, but merely mechanically suspended in the water, because the liquid is deprived of the lead by passing it through a paper filter. It is to this opinion that Col. Yorhe devotes the present notice.

Our author was aware that the aqueous solution of oxide of lead would not pass through a filter, but as the action of tests on the liquid was just what one observes with solutions; as no time allowed for subsidence made any difference in these appearances; as the liquid deposited crystals of oxide of lead, not only on the lead, but on other bodies; as when decomposed by the voltaic battery, it gave metallic lead at the negative pole, and peroxide at the positive, he did not consider that the stoppage of the oxide of lead by the filters was any proof of its not

being dissolved. There remains, however, this question to be answered: In what way does the paper act in retaining the oxide?

He placed some clean rods of lead in bottles of distilled water, loosely stoppered, and in this way obtained, after removing them, a clear liquid, which, when tested by sulphuretted hydrogen, gave a deep brown colour. On passing this liquid through a double filter, which had been previously washed with hot distilled water, it appeared to be very nearly deprived of lead; when two or three fluid ounces had passed through, the filters were removed, washed, then immersed in a solution of sulphuretted hydrogen, again washed and dried. Some torn fragments of the filters were then mounted in Canada balsam for examination by the microscope. On examination with powers of from 150 to 400, the fibres of the flax composing the paper were found to be browned, and, in many instances, it could be distinctly seen that the colouring substance occupied the interior of the tubular fibre. Now, it is stated by Mr. Crum, (Philosoph. Mag., for April, 1844,) that cotton wool possesses the power of abstracting the oxide of lead from its solution in lime water, and that this property is made available in the processes for dying cotton with the chromates. Col. Yorke found on filtering a solution of oxide of lead in lime water through a triple filter, that whereas the original solution gave a deep black, when tested by sulphuretted hydrogen, the filtered liquid gave but a pale brown, and it required that the unfiltered liquid should be diluted with thirty times its volume of water, to produce the same test as the filtered.

He then tried the effect of mere immersion of the paper in the aqueous solutions before used. A bit of filtering paper, ten inches by two inches, was boiled in distilled water, and then put into an ounce vial filled with the aqueous solution; after remaining six hours, the liquid was poured off and tested; it gave a pale brown, and it required that the liquid which had not been in contact with the paper, should be diluted with ten times its volume of water to produce the same tint. This experiment was repeated with a stronger solution of oxide of lead in water; the water was poured off at the end of four hours: it then gave a pale brown, and it required that the original liquid should be diluted with four times its bulk of water to produce the same tint. A fresh portion of the same solution was then poured on the same paper and left for a night; then, on testing, the liquid gave a brown tint, barely perceptible, and it required that the original liquid should be diluted with from fifteen to twenty times its volume of water to produce the same.

From these experiments, he deems it clear that the effect in question is dependent on a power possessed by the paper in common with several other porous bodies and organized fibres, of separating certain substances from their solutions, a power sufficiently well known, though little understood.

But there is another circumstance of some practical importance, that it may be supposed should follow as a consequence, viz., that after the fibres of the paper are saturated with the oxide of lead, then this substance should pass through in solution. To ascertain whether this was the case, he made the following experiments.

He obtained a strong aqueous solution of oxide of lead, by immersing slips of clean lead in about three quarts of distilled water, contained in a two-necked bottle, through which oxygen gas was passed and maintained in contact with, under a slight pressure. In this manner, he procured a solution, which when quite clear yielded one seven thousand five hundredths of ignited oxide of lead. A filter of paper rather less than one two hundredths of an inch thick, and four inches in diameter, was prepared and washed; then by fitting into one of the two necks of the bottle a siphon with equal legs, so as to resemble Gay Lussac's apparatus for washing filters, he was enabled to allow the filtration to go on with considerable regularity for many hours. The first portion of liquid which passed through gave a pale brown when tested: when nine fluid ounces had passed through, the effect was the same as at first. When forty fluid ounces had passed through, the liquid which was quite clear, gave a much darker tint with the test than any which had been previously obtained in the experiment. It gave a tint about equal to that given with the unfiltered liquid when diluted with its own volume of water. This the last filtered portion required to be diluted with twice its volume of water to produce the same tint as that given by the first filtered portion, after the nine

fluid ounces had passed through. The liquid now passed through the filter very slowly; when eight more fluid ounces had passed through, it was again tested, with the same result as before, except that the tint was a trifle darker.

This experiment sufficiently shows, that the effect contemplated does occur, and that it would be unsafe to trust to the action of a filter to separate oxide of lead from water for an unlimited time.—*London, Edinburgh and Dublin Philosophical Magazine*, Jan. 1846. T. R. B.

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72. *Abortion produced by the Injection of an irritating Substance into the Vagina.—Death of the Female.*—During the last summer, the commissary of police of Strasburg was informed that a young female had died suddenly, under the use of substances which it was supposed had been administered for the purpose of procuring abortion. A post-mortem inspection confirmed this suspicion. The abdominal viscera were found in a state of violent inflammation, and the intestines were gangrenous. These appearances were attributed to the employment of some corrosive and irritant substance which had been applied to the vagina; and the conclusion was, that the deceased had died from the effects of abortion artificially induced. M. Gerhardt, who had attended the deceased, stated, that when he was first called, the symptoms led him to suspect that there had been some criminal attempt to procure abortion. Deceased admitted that a female had given her some substance which had excited violent pain. Delivery took place the day following, and in a few days afterwards she died.

The nature of the substance used as an abortive could not be determined; but it was clear, from the effects observed, that it possessed corrosive properties, and that it had led to the death of the deceased. The prisoner was convicted upon the evidence, and condemned to ten years' imprisonment.—*Lond. Med. Gaz.*, Jan. 1846, from *Gazette Médicale de Paris*, Jan., 1846.

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73. *M. Bonjean on the Elimination of Arsenic, &c., from the System.*—One of the most important questions connected with Legal Medicine is that which regards the absorption of poisons. It is only within these few years, however, that light has begun to be thrown upon this department of animal physiology, by means of chemistry; much, therefore, is still wanting in the study of the phenomena embraced by it, and it is the duty of the chemist to seize every opportunity which enables him to throw additional light on this important subject. The interesting trial which lately occurred at Auch, (the result of which was clearly foreseen at the very commencement of the debates,) has furnished me an occasion to substantiate a fact, intimately associated therewith; and which may be of service to legal medicine. It will perhaps be recollected that one feature in the case was, that the presumed victim, Lacoste, had, for some time previous to his death, been using a secret medicine, for the purpose of curing himself of an eruption of long standing; but he had ceased taking the medicine for fifteen days previous to his death; and on this point the prosecutor laid great stress. This fact being established, or at least supposed to be so, the prosecutor drew from it this conclusion, *that Lacoste died from poisoning by arsenic, wilfully administered to him a short time previous to his death, and that the arsenic found in the various organs of his body, by the Parisian chemists, could be attributed to no other source.* This conclusion so dreadful to the accused, may be given as follows:—*In the course of fifteen days, our organs free themselves entirely of any arsenic which may have been introduced into them by absorption; and, after this short interval of time, every phenomenon referable to the presence of the poison has disappeared.* This proposition, dangerous in itself, and which nothing authorizes us to admit, is far from being in harmony with facts of a similar nature related by celebrated men. On the contrary, it has of late been established, that in certain animals, such as the dog and the sheep, the elimination of arsenic is not complete before the lapse of *four or six weeks.* M. Flandin, one of those chemists who has made this question a subject of deep study, found traces of arsenic in the viscera of an animal which did not die till thirty-five days after the administration of the poison. But it may be asked, does absorption go on in the same way in man as in animals? Does this physiological action proceed in every case in an equal, uniform, and constant manner during the whole course of its continuance within the system? Well-observed facts are indeed wanting to

enable us to affirm that such is always the case. All we know is, that a large number of poisons are absorbed by our organs, and pass into the current of the circulation, whence they are eliminated by the various secretions, such as the urine, egesta, &c.; but we are entirely ignorant of the limits of absorption, as well as of those circumstances which tend to modify it.

In the mean time, we may subjoin a case which may perhaps assist in throwing light on a question interesting alike to legal medicine, therapeutics, and public hygiene.

M. X., on his way to the baths of Aix, in Savoy, called upon me, on the 24th May, 1844, with the following prescription, signed by Dr. Cazenave, physician to the Hôpital Saint-Louis, at Paris. Take of, *The arsenical solution of Pearson a quarter of an ounce* (8 *grammes*); *syrup of soap-wort, one pound* (500 *grammes*). *Mix. A tablespoonful to be taken night and morning. When finished, to be renewed, with double the quantity of arsenical solution to the same quantity of syrup.* I made up the first dose for M. X., and some days after, at his request, the second. He commenced the treatment on the 26th May, and continued it without interruption to the 18th June; during this period he consumed the whole of the medicine above specified. Thus, in the course of 24 days, M. X. had taken two pounds of the syrup of saponaria, containing 24 grammes of Pearson's solution. Now, this preparation of arsenic is made up of crystallized arseniate of soda, one grain (0·05 gm.); distilled water, one ounce (32 gm.); so that 24 grammes contain *three-quarters of a grain of arseniate of soda*, equal to about *half a grain* (0·48) *of arsenic acid*, or nearly *the third of a grain* (0·31) *of metallic arsenic.* On the 19th July following, M. X., at my request, forwarded me from Aix a pound of his urine, passed the previous evening, or exactly *a month* after he had ceased his arsenical treatment; this urine, after being properly evaporated, was introduced into Marsh's apparatus, and there were obtained from it *twelve particles* of a clear reddish-brown colour, brilliant and shining, and which on analysis exhibited all the reactions peculiar to *metallic arsenic.* Thus, after the lapse of a whole month, the organs of an adult had not got rid of three-quarters of a grain of arseniate of soda, taken in the course of twenty-four days! It is scarcely necessary to add, that, to avoid every chance of error, the apparatus I made use of was previously tried with a white heat, in order to insure the purity of the re-agents employed. Thus, then, contrary to the opinion avowed by several authors, *a few days* are not sufficient for the animal economy to free itself of that portion of arsenic which may have been absorbed, and the man who has resisted a certain dose of this poison does not eliminate it in a space of time which never exceeds *twelve or fifteen days* (Chatin.) On the contrary, it tends rather to confirm this great medical principle, that the absorption of remedies is the more complete the smaller the dose in which they are administered, a principle, the exactitude of which I have verified by experiments on my own person, with various mineral salts, taken in equal doses, and at various intervals of time. The following example may suffice: After taking in the course of a day, in doses of a glassfull every two hours, a *quarter of a grain* of the ioduret of potassium, dissolved in a quart of water, I was able to trace, for *seven days*, the presence of iodine in my urine, and for *six days* in my saliva. After taking, on the other hand, the same quantity of iodurated water, in the course of one or two hours, I was not able to trace the iodine in my saliva at all, and in my urine for *two days* only. Lastly, I swallowed fasting, and at a single dose, *five grains* of the ioduret of potassium, dissolved in two ounces of water; traces of iodine were discovered in the urine during *twenty-eight hours*, and in the saliva during *seventeen hours* only. During the whole day, I suffered much from abundant salivation. It will be observed how much the phenomena of absorption vary, according to the quantity of the substance taken, as well as from the larger or smaller quantity of water in which it has been dissolved, &c. I am satisfied, in the mean time, with pointing out the results which I have obtained in the course of an examination I am still pursuing; there can be little doubt they will lead to important conclusions in regard to the mode of administering medicines. From all that precedes, we may draw this safe conclusion, that there are still many questions in legal medicine on which science has yet to throw additional light; a circumstance which ought to render us cautious in all criminal investigations, more especially when it is a question of facts not yet determined by experience, but which are of such a nature as

may be resolved or interpreted in favour of an unhappy individual, subjected to the terrors of the law, by a course of unfavourable circumstances.—*Monthly Journ. Med. Sci.*, Dec., 1845, from *Annales de Thérapeutiques*, Sept., 1845.

74. *Poisoning with Strychnia.*—Dr. James Wilson records, in the *London and Edinb. Monthly Journ. Med. Sci.*, (Dec. 1845,) the following account of the symptoms and post-mortem appearances, in a young girl otherwise healthy, who was poisoned by her taking strychnia through foolish sportiveness. The statement is the more interesting from cases of poisoning with this substance being rare.

Agnes French, aged 13. Sept. 27, 1845. Has been in the Glasgow Royal Infirmary since the 16th inst., for eczema capitis, which is now nearly well.

About half-past five P. M., swallowed three strychnia pills, which belonged to a paralytic patient in the same ward. Each pill contained a quarter grain of strychnia. She has been occasionally in the habit of taking medicines belonging to other patients. Twenty minutes after taking the pills, she said she felt a strange sensation in her head, and became almost immediately convulsed. The clerk was called and visited her without loss of time. The following was her state. The arms were found extended and rigid, as also were all the muscles of her body, which was bent backwards at a considerable curve. Pupils were natural. Pulse was obscured from the rigidity of the muscles, but impulse of the heart was strong. Face was much flushed and lips livid. Breathing rapid and difficult, but larynx quite free,—spasms of diaphragm very marked. Every few minutes she had a fit of general convulsions. The mind was quite entire, and great fear and anxiety for relief were expressed.

The cause at first being unknown, six ounces of blood were abstracted from the temporal artery. Cold lotions were applied to the head, and sinapisms to the extremities. Ten minutes after the symptoms began, the owner of the pills told the cause, when a scruple of zinc was immediately given, and large draughts of warm water, which were eagerly swallowed by the patient. No vomiting, however, was induced for about a quarter of an hour, although the fauces were tickled with a feather; and when the emetic operated, it acted very sparingly. All this time the opisthotonos and universal muscular twitchings had continued most violent; but now, during one of the ineffectual attempts to vomit, the rigidity of the muscles suddenly relaxed, and the spasmodic contractions ceased. The heart's impulse, previously strong, could not now be felt, and respiration was for the time extinct. Her face, which, from the commencement of the attack, had continued deeply flushed, became gradually pale, from above downwards; her lips remaining livid. She was laid down; and seemed to recover slightly; her chest heaved slowly, and her heart beat feebly, and at long intervals. The flush also somewhat returned to the face, but with the exception of a few twitches, she had no recurrence of the spasms. The pupils were now dilated—the eyes fixed and turned upwards. The stomach-pump was suggested, and immediately applied, but without any good effect. In a short time the respiration again ceased, and the heart could no longer be felt. The flush, which had been but slight, again descended and disappeared on the neck. Artificial respiration, and galvanism to the phrenic nerve were now tried in vain. The patient was dead. Death took place at three-quarters past six P. M., little more than an hour after the poison had been swallowed, and in about three-quarters of an hour after it had produced its physiological effect.

Autopsy forty-four hours after death.—Face placid, abdomen tympanitic, much lividity of depending parts. Post-mortem rigidity of body in general moderate, but fingers and thumbs very livid, half-flexed, firm, and somewhat elastic. Integuments of scalp bled freely on being cut. Brain and its membranes quite natural, excepting turgescence of velum interpositum and choroid plexus. Spinal cord healthy,—its investing membranes rather vascular. Lungs much congested with venous blood. *Muscles of heart quite stiff. The right ventricle was flattened into a sharp edge, and was quite empty. The left ventricle was also collapsed and empty. The auricles were in a similar condition.* The stomach contained a half-digested meal. Its mucous lining was pale and natural. Other viscera normal.

75. *The proof that poison has been administered.*—The following remarks from an

editorial article in the *Gaz. des Tribunaux* of June 21, 1845, are well worthy of consideration.

In cases of poisoning, should the prosecutor prove that the quantity of poison administered has been sufficient to cause death? This question has been discussed on several recent trials, and particularly on one before the court of assizes of the Lower Seine. The medical witnesses, in some of these, have been called upon to state whether the quantity of poison obtained on analysis was sufficient to destroy life, and the discussion raised on this point, especially in a case before the court of assizes at Loiret, assumed so much interest as apparently to form an important part of the trial.

An eminent toxicologist, Dr. Orfila, fearing, with reason, that the ends of justice might be frustrated by the undue importance attached to this, has recently published a memoir, (*Refutation de deux erreurs contre lequelles il importe de premunir les experts,*) in which he maintains, with all the authority of his eminent science and talents, that medical witnesses ought not to attach more than medium importance to the quantity of poison found on analysis; that the poison may have been rejected from the body before the death of the victim, that it is sufficient, if we prove the presence of the poison in the smallest proportion, and finally that the 301st article of the penal code, which requires that the article administered has caused death, is to be understood as speaking of the *nature* of the poisonous substance, and not of the *quantity*, which was given.

We agree, on the whole, with the opinion advanced by the illustrious Dean of the School of Medicine, but we think he has presented it in terms too absolute. The 301st article requires that the crime has been caused by the effect of substances which *may cause death;* it is hence not sufficient that the substances given be of a *deadly nature*, but they must have in themselves the power to *cause death.* This is incontestable, since otherwise we must admit that the administration of a poisonous substance, in quantity so small as not to injure even the health of a person, constitutes the crime of poisoning. But although we thus differ with M. Orfila on a point purely theoretical, we agree with him practically.

The administration of poison has or has not caused death. If the latter, then it is indispensable to verify the quantity given, since this quantity becomes the material fact of the case, in proving the culpability of the action. The effects of the poison—its dangerous nature, or the immunity from injury in consequence of the smallness of the dose, all must evidently rest on the question of quantity.

But if death has succeeded the administration of the substance, and this seems to be the only case to which M. Orfila has looked, the question is then altered. Why, in this case, make and continue fruitless inquiries as to the *quantity* of the substance? Does not death establish the presumption, that the poison, if administered, has been in sufficient quantity to produce it? In this instance, the points to be proved are, the presence of the poison, the marks which it has left, and the effects which it has induced, and to these the medical examiner should particularly apply himself. The quantity of a poison obtained after death is necessarily variable, since this depends on the time during which the victim has survived the poisoning; the nature and the mass of the parts of the body which have been analyzed, the delay between the period of death and that of the examination, &c. It is hence impossible to consider the quantity found, as an indispensable proof of the crime. And in this point of view, the memoir of M. Orfila is irrefutable, and will prove eminently useful to medical men. T. R. B.

AURAL SURGERY.

76. *Notice of some experiments for the cure of Deafness.*—The "*Annales de l'Education des Sourds-Muets et des Aveugles,*" for 1844, contain an interesting notice by Dr. MENIERE, of some experiments for the cure of deafness made by Dr. Turnbull and M. Dupotet. These two charlatans are properly rebuked, and the futility of their measures thoroughly exposed. The whole article is translated and published in the *N. Y. Journal of Medicine* for May last, and from this we make the following extracts:

"In whatever point of view deafness is considered, it should be acknowledged that this morbid state, whether congenital or acquired, demands for its proper treatment a thorough knowledge of the special conditions that constitute it. As a consequence of this principle, it will be admitted that before treating a deaf mute, it is necessary to subject the organs of hearing to a strict examination, in order to appreciate correctly the changes in them." * * * * *

"Within a few years new experiments have been made [for the cure of deafness], and it may be useful to state in what they consisted, and what have been their results. Being an impartial witness of these experiments, and knowing perfectly the deaf mutes who have been the subjects of them, I am prepared to furnish upon this point exact information, the value of which I hope will be appreciated.

"Dr. Turnbull announced himself the inventor of a medical preparation, by the use of which he pretended perfectly to cure deafness. The English journals published numerous examples of cures, and soon the inventor of this remedy visited Paris to continue his experiments, and prove his success. Invited by distinguished persons to give to this physician all necessary facilities, I placed at his disposal four pupils of the Royal Institute for deaf mutes, reserving to myself the right of superintending the experiments, and studying the results.

"I should first say, that Dr. Turnbull examined the external passage of the ear of my deaf mutes, only with the design of ascertaining the presence of ceruminous masses, which would prevent liquid medicine penetrating to the bottom of the ear. In one of them there was complete destruction of the tympanum, and the small bones of the covering; two others had these organs in good condition, while the fourth had the tympanum strongly depressed within, and adhering to the internal coat of the cavity of the tympanum. The two pupils having the ear sound, at least in appearance, were hardly sensible of the most piercing sounds. The two others, hearing a little, could speak a few words taught them in childhood, and belonged to that class of deaf mutes, the most numerous, in which the hearing is destroyed by accidental causes, but not totally, or sufficiently so to render all oral communication impossible.

"The English physician did not make any distinction between these pupils; he did not ascertain by any previous examination, the degree of hearing of each one, and administered his remedy to all in the same manner. He made use of a liquid substance slightly aromatic, almost tasteless, introduced lukewarm into the external opening, leaving it in contact with the bottom of the passage for two or more minutes—keeping it in motion by an instrument of soft leather, so as to facilitate the absorption. The conduit remained closed for some moments with a piece of cotton, and soon the deaf mute was subjected to experiments to demonstrate that he had become capable of hearing.

"The experiments made for this purpose consisted, first, of a violent noise, produced by striking two bound volumes, one against the other, held at the distance of some 'centimetres,' only, from the ear, in such a way that the air put in motion by the concussion of the volumes, struck all this side of the head, and caused at the same time a sudden noise, and a very powerful impulsion,—a double sensation, which confounded itself and prevented the result from being appreciated. Dr. Turnbull thought that this startling shock must awaken the sense of hearing, and dispose it to perceive lighter impressions; and, indeed, immediately after this explosion, he placed a watch at the distance of twenty or thirty 'centimetres,' more or less, and according to him, its ticking was heard without difficulty.

"It would be very easy to show that these experiments are inconclusive, that they involve sources of error, and are far from proving what the English physician wished to demonstrate. While the deaf mute indicated by a sign that he heard the noise of the watch, and the numerous assistants testified their admiration of the result of an experiment so singularly made, the same child remained completely unconscious of the most violent shouts,—and this supposed perception of the ticking of the watch took place in the midst of a stunning noise, which prevented any of us from hearing much louder sounds.

"These experiments were repeated three times, with similar results, and the journals had already announced these *wonders*, when, for sufficient reasons, this

useless labour was discontinued. It was proved that the four pupils were then precisely in the same condition, with respect to hearing, as before the treatment of the English physician. We have since learned that the active property of the medicine introduced into the ears, was owing to a preparation of 'Aconitum Napellus,' a substance which, every one knows, exerts a remarkable influence upon the brain, upon the nerves of the senses, and more particularly upon the auditory nerves. I should add, that this mode of treatment of deafness, applied by its author to all the various imperfections of the organ of hearing, has been severely condemned in England, and for some years it has ceased to be noticed.

"In this instance he made use of an empirical process, employing a stimulating substance, applied directly upon the external part of the auditory passage, and designed for immediate absorption. Without troubling himself as to the causes of the deafness, and the changes of the auditory organ, without seeking to render himself acquainted with the probable condition of the acoustic nerves, of their atrophy, of their absence even, or of a defect of conformation absolutely irremediable, this same substance was indiscriminately applied hap-hazard, and the skilful hand which administered it, obtained infallibly the same result in four cases, which were found to be, in some respects, essentially different. Who does not perceive, at first sight, that these processes have in them nothing of a scientific character, and that they are fitted to strike the multitude and produce illusions always easily effected?

"I have now to speak of another experiment made like the preceding at the Royal Institute for deaf mutes. M. Dupotet having applied animal magnetism to the cure of a great number of diseases, thought that this agent might produce, among deaf mutes, the sensation of hearing, since it procured some perceptions of a different nature, in the absence of the sentient organ, and of the agent capable of acting upon it. I am not in this place to give my views upon the value of this principle. Whatever it may be, M. Dupotet took under his care Miss B., formerly a pupil of this Institute, and soon he believed he was able to announce to the Academy of Sciences of the Institute that he had by magnetism alone restored to hearing a deaf mute; that this deaf mute heard and spoke,—and that by the aid of magnetism this great problem of the curing of deafness was thus solved. A committee was appointed to examine the facts, to attend some new experiments, and I was directed to superintend the employment of this new means ('moyen') upon three pupils of the Royal Institute.

"Here again, there was not, on the part of M. Dupotet, any previous examination of the ear; he made no experiments with the design of assuring himself whether these children heard a little, and even to what extent; in a word, he commenced, at once, the particular 'passes' designed to produce magnetic sleep. I had taken care to assure myself that two of these pupils heard all loud, sudden, explosive sounds, that they could even imitate them, and that the third, much more deaf, remained almost entirely insensible to these causes of auditory impressions.

"Thirteen sittings from one to two hours each were devoted to these experiments. The three pupils were very slightly affected by the magnetic influence of M. Dupotet; neither of them slept, neither of them appeared to reach that state of somnambulism called 'lucid;' in fine, the action of this fluid, so powerful it is said, did not manifest itself by any perceptible sign. I kept a very minute account of all that was done by the magnetizer and the magnetized. I scrupulously fulfilled my task, not forgetting any of the circumstances which presented themselves to my sight, and I must say that the result was *nothing*. These pupils heard even slight sounds, when they were produced suddenly by a blow near the ear; but another deaf-mute in the same primitive condition, subjected by myself to the same experiments of hearing without having been magnetized, perceived equally well the same sounds, produced in the same manner, and I have long been satisfied that this experiment would succeed upon most of our pupils.

"It always happens, in cases of this kind, that a little use improves the hearing; that the frequent repetition of these experiments renders those who submit to them more impressible; and it has been known a long time, that almost all deaf mutes become susceptible of sounds, which did not strike them at first. The ingenious experiments of Mr. Itard have demonstrated all that can be gathered upon the education of the ear, and I can verify all the observations of this learned physi-

cian, from attending the experiments of M. Dupotet. But I have also seen that this improvement of the hearing does not exceed certain limits, that the progress was very limited, and that the unfortunate deaf mute soon arrived at a point beyond which he could not improve. All conscientious observers have confirmed these results already acquired to science; and modern experimenters, who appear ignorant of these facts, ought to study them forthwith, to change their starting point, and not to cry a miracle when by any means they believe they have developed the auditory sensation, which exercise alone infallibly produces among the greater part of deaf mutes. Moreover, the successful efforts of M. Dupotet have been attended by the committee of the Institute; the report of M. Magendie subjected these facts to a rigid examination, and the conclusions of the reporter expose the insignificance of the pretensions of the magnetizer."

MISCELLANEOUS.

77. *Cure of Stammering.*—Dr. Serre (d'Uzès) made a communication to the French Academy of Sciences, 2d Feb. last, which excited an unusual degree of interest, due to the circumstance, that the learned essayist had struggled since his youth against the infirmity to which he this day directed the attention of the Academy; and, certainly, the distinct enunciation and unhesitating utterance of the speaker were the most striking proofs of the correctness of his views on the subject. The unfortunate results of the surgical operations proposed, not long since, for the cure of stammering, no less than the disgraceful charlatanry to which they were made subservient, threw them into well-merited discredit. The method now brought forward does not bear the same character; it is purely the result of philosophical induction, and rests upon the perseverance and reason of the patient. The following precepts are laid down by Dr. Serre:—1. Stammering, like other defects of speech, can only be got rid of by a firm and persevering determination. 2. Equisyllabism, or the enunciation at equal intervals of each syllable of every word, is the first rule to which the stammerer must submit; under its influence, regularity takes forcibly the place of that disorder which characterizes his utterance. 3. The action of the orator not only constitutes a language completive of vocal expression, but serves, also, according to Dr. Serre, to modulate the sound emitted, the volume and energy of which are instinctively regulated by the precision of the accompanying gesture. 4. The frequent exercise of equisyllabic pronunciation combined with appropriate action must infallibly restore the function of speech to its natural conditions. Stammering is certainly so often the result of bashfulness, that the rules laid down by Dr. Serre cannot fail in producing a favourable change in most persons afflicted with the infirmity. It is obvious that they must, on the contrary, prove inefficient when some physical obstacle exists to a proper enunciation. Such instances are, however, comparatively rare, and to all others Dr. Serre's method is immediately applicable.—*Med. Times*, Feb. 14th, 1846.

78. *Electrical Girl.*—M. Arago stated to the French Academy of Sciences, at their meeting on the 16th Feb. last, that he had been called upon to witness some of the most singular phenomena which he had ever beheld, in the shape of electric discharges of the most violent character, proceeding from the person of a young girl, aged thirteen, lately submitted to his inspection. This truly remarkable child overturns tables and chairs by merely touching them with her apron. When she sits down, the moment her feet touch the ground the chair is upset, and she is suddenly propelled with considerable force. M. Arago said he had seen all these experiments, and had not been able to detect any trick. He begged the Academy would appoint a committee to investigate the matter.—*Ibid.*, Feb. 28th, 1846.

NECROLOGY.

79. *Obituary Notice of the late Dr. James Johnson.*—It would be treason to the Literature of Medicine and a wrong to the memory of an able physician, to suffer the death of Dr. James Johnson to pass without some notice. If the pursuit of knowledge under difficulties is honourable—if its attainment by incessant industry is laudable—if the example of a man rising without friends, or family, or wealth to a high place in his profession, and to general estimation with the public, is calculated to be useful to those whose career is yet to be run—then a sketch of the life of Dr. James Johnson will not be without its value. We regret that our space is too limited to admit of such ample details as we could wish; but that regret is diminished by the conviction that the present editors of the *Medico-Chirurgical Review* will supply our deficiencies.

James Johnson, or, rather, Johnston, for such was really his name, was the youngest son of a family of Scotch extraction, settled on the banks of Lough Neagh, in the county of Derry, in Ireland. Like Cobden, he might boast that he was a "farmer's son." Born in February, 1777, and dying on the 10th of October, 1845, he was in his 69th year at the time of his decease. His early education, such as it was, he obtained at a grammar school kept by a Catholic pedagogue, the brother of the parish priest. The village school-boy was the type of the future man; for he confessed that he was miserable when not at the head of his class, and would sit up till midnight conning the lessons of next day. At the age of fifteen, this instruction, whatever its amount, was at an end, and we may readily suppose that it formed a small portion of that varied, extensive, and miscellaneous information which distinguished him in after life. He was now apprenticed to a surgeon-apothecary in the county of Antrim, whence he was transferred to another in Belfast, and, at the end of four years, went to London, without either money or friends. The manner in which he contrived to obtain an acquaintance with anatomy and surgery, at long intervals and by brief instalments, might shame the sybaritic students of our day. In 1798, he passed an examination as surgeon's mate, in the Navy, and was appointed to the Mercury frigate, where he devoted every hour to study, visiting the naval hospitals whenever the ship was in harbour, and winning the golden opinions of his captain, who winked at his absence from the ship for some months in the winter of 1799, when he worked night and day in London. At the age of 22, he was made full surgeon in the Navy, and accompanied the expedition to Egypt. His fatigues and exertions produced an illness which compelled him to return to London, where he studied in Great Windmill Street under Mr. Wilson, who stated in a certificate that he actually *lived* in the dissecting-room. He had expended his last guinea, and midwifery lectures were yet to be obtained. He applied to Dr. John Clarke, who, with characteristic generosity, instantly gave him a ticket of admission, and invited him to his table.

In 1803, he sailed for the East, and during the next three years, in India and in China, he laid the foundation for his first, and, perhaps, most permanent work, *The Influence of Tropical Climates on European Constitutions.* Of that work, it is only necessary to observe, that it is distinguished for soundness of physiological views, acuteness of observation, and variety of matter. It is still the text-book of the tropical practitioner, and is likely long to continue so. In autumn 1806, he married Miss Charlotte Wolfenden, of Lambeth, who now survives him, and by whom he has had six children. The eldest and the youngest have followed the profession of their father; the former, Mr. Henry James Johnson, being assistant-surgeon to St. George's Hospital, and the latter, Mr. Alliot Johnson, residing there as house-surgeon. The work on Tropical Climates was not published till 1812, and then at his own risk and expense. Its success was decisive, though not immediate. In 1809, he was at Walcheren, and this and his Indian expedition sapped the vigour of a constitution naturally excellent; for in the East, he suffered from dysentery, which was destined to cut him off at Brighton, after the lapse of 40 years,—and at Walcheren, he contracted ague, which, as has been the case in many instances, re-appeared in London, and nearly proved fatal to him there.

At the peace of 1814, Dr. Johnson served in the "Impregnable," when the

late King William IV., then Duke of Clarence, hoisted his flag for the purpose of conveying the Emperor of Russia, King of Prussia, &c., to this country. He attended his Royal Highness during an attack of "hay-fever," and so pleased was the Duke with him, that he made him his surgeon-in-ordinary, appointed him "physician extraordinary" on his accession, and always treated him with a considerate kindness.

At the conclusion of the war, Mr. Johnson settled at Portsmouth as a general practitioner, and was getting into good practice, when ambition and ill health both prompted him to try his fortune in London. He had taken out a Scotch degree, possessed about five hundred pounds, had one friend in the metropolis, Sir Wm. Young, and with this stock of worldly means he committed himself, at the age of 41, with a wife and five children, to the mercies of the modern Babylon. Though weak in body, of nervous temperament, and desponding turn, he had that determination and singleness of purpose which discard "impossible" from its vocabulary; like Sheridan, he probably felt "it was in him, and must come out."

It was a bold step for a moneyless and a friendless man to start in London:—it was bolder, at his own risk and expense, to originate at the same moment the *Medico-Chirurgical Review*. But its success was at once the omen and means of his own, and no quarterly medical journal has ever attained a larger circulation, or exerted wider influence. His labours for a long period were arduous—practice in the day was succeeded by the toils of the desk at night; and for fifteen years he wrote every page of a work of considerable bulk, and remarkable for the condensation of its matter. This could not go on forever. Hemorrhoids and fistula, for which he was operated on by the late Sir Astley Cooper, and the present Mr. Guthrie, were followed by dyspepsia, in such an aggravated form, as those can only understand who know what the malady is to a nervous frame, exhausted by bodily and mental labour. But out of evil comes good. His own sufferings directed his attention to the subject of Indigestion, and were the immediate cause and indeed foundation of his essay upon that complaint. The publication of that work at once raised his practice to as high a pitch as was compatible with his own inclinations and strength. The remainder of his life was as active, though not as checkered and anxious as that which had gone before. Incessantly occupied with his patients, the Review, his various works, (for he was an author to the last,) and his tours of health, in which he engaged with all the ardour of a boy, he could scarcely have been said, except in sleep, to have passed an unoccupied hour. His meals were hurried, he entered into no society, and his life would not seem to have much of enjoyment in it. But it suited his tastes, and was the natural fruit of that restless energy which had made him all that he was. A mere enumeration of his published works, none of them compilations, will be sufficient evidence of his industry, some of them, at least, of his talents as a writer.

It only remains to weigh, in a few words, his public and private character. The latter is easily disposed of,—a good husband, a kind father, a warm-hearted generous man, his memory is embalmed in the affectionate remembrances of those who were connected with him. As an author, he was remarkable for facility of composition, a felicitous, though not always a correct style, and an original vigour and raciness of observation and expression that redeem some faults, and make his works eminently readable. He may almost be called the Cobbett of Medical Literature, the same boldness, terseness, and straightforwardness being characteristic of the writings of both. The popular seal of success has at all events been set on all he wrote, whether professional or general. Every production of his pen has met with a large sale, and most of them have gone through numerous editions.

As a practitioner, he was, in many respects, a model. Simple, unostentatious, his kindness was proverbial, and probably no man, since Dr. Baillie, has been more beloved by his patients. His liberality amounted to a fault, (being oftentimes imposed on,) and almost indiscriminate. It has curtailed what might have been a large private fortune, but it has achieved its object, for it gratified a kindly disposition, and ministered to the necessities of others. Peace to his ashes, for they are those of an able, and what, perhaps, is better, of a good man.

AMERICAN INTELLIGENCE.

ORIGINAL COMMUNICATIONS.

Removal of a Foreign Body from the Bladder. By E. W. THEOBALD, M. D., of Baltimore, Md.

Mrs. B. had been confined two months prior to my visiting her. The accoucheur finding it necessary to draw off the urine, and not having a more suitable instrument at hand, undertook to perform the operation with a clyster-pipe, an ivory end-piece which screws into the elastic tube of a syringe, its length being about three inches. To the screw extremity he tied a thread to guard against accident.

Whilst the woman was free from suffering, he introduced the instrument; but, unfortunately, a severe labour-pain came on very soon after, and caused such a contraction of the urethra that the tube was forced from his grasp and lodged in the bladder.

The subsequent sufferings of the patient from the presence of the tube in that organ, led the accoucheur to disclose the secret to me, that I might perform the operation of extraction. The most profound secrecy towards the family, concerning the nature of the case, was required of me. Our patient was a woman of good constitution, and about twenty-five years of age. Her sufferings from the accident had been intense. I found her exceedingly debilitated and emaciated. The symptoms, of course, were the same as those ordinarily present in a case of stone in the bladder.

Having placed the patient on her back, with her hips and heels resting upon the edge of the bed, I proceeded, with the assistance of my friend, the accoucheur, in the following manner:—

To ascertain if there was a foreign body in the bladder, I introduced a small, straight steel sound, and immediately touched it. My decision was to dislodge it, if possible, without making an incision to dilate the urethra. Accordingly I withdrew the sound, and inserted a large elastic bougie, which I allowed to remain some minutes. Removing this, I introduced a small pair of polypi-forceps, with which I dilated the urethra still more. On seizing hold of the foreign body, I found it, to my regret, lying transversely across the mouth of the bladder. The great irritability of that organ, brought about by the presence of the tube for two months, and increased, at the time of the operation, by the introduction of my instruments, caused the bladder to contract so powerfully as to preclude a possibility, with my forceps alone, of bringing an end of the tube to the orifice of the bladder. I next introduced the index finger of my left hand into the vagina; and passing it upwards behind the bladder, I distinctly felt one end of the tube. By a little tact, gently pushing that end with the point of my finger, and cautiously grasping it with my forceps, I was able very gradually to accomplish my object.

The woman suffered considerable pain for a short time after the operation. In the course of a week she was perfectly well, and attending to her domestic concerns.

On examining the tube after its withdrawal, I found it to be incrusted with a calcareous deposit, consisting principally of phosphate of lime.

The patient remains ignorant, to the present hour, of the fact that there was such a foreign body in her bladder as was extracted from it.

Hemorrhage from Various parts of the Body. By CYRUS WATERS, M. D., of Montgomery County, Maryland.

S., a remarkably healthy, robust negress, aged about 19, was caught away from home, in the autumn of 1839, by a hail storm, and took shelter in a spring house located in a ravine. The rain fell so very heavily that she was soon standing several feet deep in a stream of water, which was rendered very cold by the solution of the hailstones. She remained nearly an hour in this condition, but by a little care recovered without any serious indisposition. Her general health seemed, however, slightly impaired, though she rarely made any complaint. Early in Nov., from one to two months after the above occurrence, she complained for several days of headache and general malaise; her catamenia came on, but very soon ceased. She was now seized with violent paroxysmal abdominal pain, vomiting and constipation, with but little fever. After these symptoms subsided, slight bronchitis set in, and the intestinal secretions were in an unhealthy condition. In the course of the treatment, her gums became slightly affected by mercury, but there were no ulcerations. Now a miliary eruption broke out and annoyed her exceedingly. It soon disappeared. In about two weeks from their appearance above noted, the catamenia recurred and continued naturally. She now gradually and steadily improved, and resumed her domestic duties.

I furnish this history to aid in tracing the cause of the following attack.

Dec. 5th. Called to her for epistaxis of two days' continuance. This was preceded by pain in her head and back, and several small tumours about the axillæ, which were apparently seated in the skin, painful, gradually enlarging, and finally the skin over them cracked, and gave exit to a thin serum, containing the colouring matter of the blood, and possessing some tendency to coagulation. The blood, on my arrival, had ceased to be discharged from the anterior nares, which were stuffed with a soft dark coagulum, and I was shown about a pint and a half of dark, frothy, very imperfectly coagulated blood which she had spat out, after it had descended from the posterior nares into the fauces. About twelve hours before I saw her, a small tumour made its appearance upon the mucous membrane of the right cheek. From this a thin, partially coagulating blood soon began to ooze, and at the same time the base of the tumour extended. When I saw it, the appearance was that of a spongy fungous growth, an inch or more long, and nearly an inch wide, considerably elevated above the healthy surrounding membrane, covered with dark blood and giving issue continually to the same kind of fluid. The discharge from the nares seemed to have ceased. Within the last eight or ten hours the labia pudendi had become swollen and painful, and from their internal surface a similar fluid escaped, and was mistaken for the menses, although these had ceased only about two weeks previously. She complained greatly of debility; skin cool, pulse very feeble, slightly quickened, tongue coated.

6th. Tongue black, and looks as if covered by a thin coagulum of blood; the bleeding tumour upon the buccal membrane is diminished. There are several bloody tumours upon the skin, but the most remarkable one is situated upon the inner part of the arm near the insertion of the pectoralis major. A space three inches long, by one inch wide, is considerably elevated, soft, spongy, and giving exit slowly to the same dark, thin, imper-

fectly coagulating blood, from every point of its surface. This tumour is very painful; the pain extends down the arm, which is considerably swollen. The labia are much swollen, and closely resemble this tumour in appearance and discharge. The ordinary constitutional symptoms of excessive loss of blood are rapidly appearing.

7th. The loss of blood has lessened, and the constitutional symptoms of excessive hemorrhage are somewhat lessened. All the bleeding tumours are diminished, but the labia pudendi are the seat of excessive suffering from a sense of heat. She has some appetite.

8th. Considers herself rather improved. The burning heat of the labia pudendi is excruciatingly severe, and is aggravated by everything except the mildest possible applications. A blistered surface on the nape of her neck discharges some blood of the same appearance, and she has had an anal dejection of the same character. The discharge from the bladder has almost precisely the same appearance. There is much less discharge from the tumours and from the inside of the mouth. Micturition causes severe smarting and burning; appetite good.

9th. The hemorrhagic discharges recurred from the mouth, and were greatly increased from the rectum, vagina and urethra. Her chief complaint is of throbbing of the heart, jarring in her head, and burning of labia pudendi. Micturition every hour, but the discharge has scarcely any of the characteristics of urine, and is exceedingly painful.

10th. Very little discharge of blood except from the urethra; passes urine more easily and less frequently; constitutional symptoms of hemorrhage less distressing, (probably owing to minute doses of laudanum given in wine whey.) The blood discharged looks more florid and coagulates more firmly.

11th. This morning she was reported rather better. There was excessive swelling of the vulva, perineum and anus. She, however, died in the afternoon, rather unexpectedly to the attendants. Some thirty-six hours before death her olfactories became exceedingly acute, and vomiting was several times produced by odours merely perceptible to others. Her breathing was very much affected by the very slight dust arising from some dry lime which was agitated carelessly in the room. I was standing by the bed at the moment, and was barely conscious of the particles of lime in the atmosphere.

I have little to say in regard to treatment, for nothing that I used seemed to have much effect. She had always enjoyed a nutritious and wholesome diet. This was continued, and she was placed in as well ventilated a place as could be obtained, though not so well cleansed as was desirable. She took with, or without my directions, at different times, alum, acetate of lead, opium, camphor and other stimulants. I thought she was more benefited by cinchona bark and sulphuric acid than any of the various remedies used internally. She took a small quantity of ol. terebinth., but her stomach would not retain it. Externally, various astringents and stimulants were used. A saturated solution of camphor in whisky seemed most beneficial to the tumours upon the skin and in the mouth, but it could not be borne upon the labia at all.

I have not met with any description of purpura corresponding exactly with the present case. Circumstances did not admit of an examination of the dead body.

Had the mercury anything to do with the production of the disease?

Case of Catalepsy relieved by Music. By James Bloodgood, M. D., of Cassapolis, Mich.

I was called in the evening of Sept. 5th, 1843, to see Dorcas Howard, aged 17, of small stature and florid complexion, who was said to be in a fit. I found her with a full, somewhat accelerated pulse, white tongue, costive bowels, flushed face and completely cataleptic; the muscles of the eyelids, which I believe is unusual in this rare disease, being affected like all the other muscles of voluntary motion, and with this peculiarity, that when closed, a slight impulse communicated to one of them, would cause both to open widely, in which state they would remain until an opposite impulse was given, when both would close simultaneously; but such a balance between the opposing muscles as would leave them partially open after the finger was removed, could not be obtained. Her attending physician, Dr. Allen, of Lagrange, where the case occurred, informed me that she laboured under menstrual suppression, and that the attack was preceded by severe headache. As no notes were taken, the previous treatment is forgotten. We applied cups to the temples, directed a blister to the spine, sinapisms to the extremities, cold applications to the head, and a mixture of jalap and crem. tart. to be kept in the mouth, and which was swallowed involuntarily at intervals through the night.

6th, 9 o'clock. No operation or change in any respect. Having learned that she was extravagantly fond of dancing to the music of a violin, a performer on that instrument was procured, and requested to play one of her favourite tunes, which he did, with immediate and striking effect. Her breathing became hurried and deep, and for a short time she appeared to be making strenuous efforts, like one closely bound, to release herself; she then became quiet, with the exception of the fingers of the right hand, the motions of which corresponded so perfectly with those of the operator's left, as to induce the bystanders to attribute it to mesmerism, which was in high credit here at that time. When the music ceased, she opened her eyes and drank eagerly of water that was presented to her, though still apparently unable to move, and a repetition of the dose, not of water, but of music, restored her to perfect consciousness and volition. Under the operation of a blister to the epigastrium, which was tender, and means to restore the menstrual secretion, she soon recovered, and was subsequently married.

March 23d, 1845. I was again requested to see her for a similar attack, which had continued five days without medical treatment, the fiddling having been relied on exclusively. The paroxysms were now of an hysterical character, commencing with convulsions, which became frightful if not arrested; but under the operation of the violin, which had been in use almost constantly by night and day, she passed in a few moments from the convulsive to the cataleptic state, and to consciousness as in the first attack, to relapse almost whenever the music ceased. Bleeding, cupping, blistering and cathartics relieved her in a day or two, and she remained as well as could be expected, with the exception of a threatened abortion, for which she was bled, until the 13th Sept. last, when she was delivered of a small healthy child after an easy labour, and has since remained in perfect health. The effect of music in this case was very remarkable. During her sickness she never had a paroxysm which music would not remove, or which was removed without it, though its effect was only temporary until depletory remedies had been used; and those remedies, however necessary they might be to secure a permanent recovery, were never alone sufficient to relieve a paroxysm.

Case of Monstrosity. By SAMUEL TYLER, M. D., of Frederick, Maryland, Sept. 8th, 1845. My father being called to a lady of this place in labour, made an examination per vaginam, when he discovered there was a placental presentation. Upon the removal of his hand, a strong uterine contraction caused the expulsion of the placenta. Renewing the vaginal examination, he discovered a soft pulpy mass in contact with the finger; but before he had time even to imagine what this anormal presentation could be, another strong uterine effort expelled a fœtus presenting the following peculiarities: viz. Total deficiency of parietal and occipital bones; the frontal and temporal only partially developed. The brain was perfect, enveloped in its membranes, the dura and pia mater. A total absence of the seven cervical vertebræ, the imperfect head being placed immediately upon the rest of the superior column which presents two distinct sets of spinous processes to the extremity of the sacrum. Whether the bodies of the vertebræ are distinct and separate, or blended into one confused mass, I am unable to say, as I have reserved the specimen entire, (with the exception of the brain, which I dissected,) as a present for the distinguished Professor of Obstetrics in the University of Pennsylvania. The viscera of the thorax and abdomen were normal.

Scarlatinoid Fever. By SAMUEL TYLER, M. D., of Frederick, Maryland.

An epidemic scarlatina has been raging to a considerable extent for twenty months, or perhaps longer, in Frederick city and county. Some cases being of the simplex, others of the anginose or malignant form, the majority of cases though being of the former type.

Within the last three months I have seen many cases of disease which I have termed scarlatinoid fever, there being every symptom of scarlatina except the eruption, particularly violent anginose symptoms, pricking and consequent huskiness of the skin, and for the most part confined to adults, but not alone to those performing the duty of nurse.

Of course every one has observed the fact that nearly all diseases are much modified by the prevalence of any epidemic, but I think the general prevalence of this disease (scarlatinoid), and its confinement to adults, and those who have had scarlatina, conjoined with the fact of the violence of its symptoms, which, though not so great as those of scarlatina, entitle it to rather more consideration than as a mere modification. Nor do I think we could exactly call it *scarlatina sine exanthemate*, described by Fothergill and Huxham (1766), as the *scarlatina cum exanthemate* has been, and is still prevailing. All these facts combined have induced me to consider it as not a mere modification, but rather "sui generis," bearing the same relation to scarlatina that typhoid does to typhus, or varioloid to variola.

I have employed the same treatment, with very little modification, as in scarlatina.

DOMESTIC SUMMARY.

History of a Case of Ligature of the Left Subclavian Artery between the Scaleni Muscles, attended with some peculiar circumstances. By J. C. WARREN, M. D., of Boston.—The author remarks that the history of an operation for the ligature of the subclavian artery, would seem scarcely worthy the attention of the society. This operation has been done many times in various parts of the world, and the annals of this distinguished body contain no less than twelve cases. The case which he has the honour to lay before them possesses peculiarities, and will, he hopes, afford some practical inferences.

James Avery, aged about 30, on the evening of December 23d, 1843, while in a state of intoxication, slipped on the ice, fell, and struck his left shoulder against the curb-stone of the side-walk. Surgical aid was called, and violent efforts were made to reduce the dislocation, but in what manner the patient could not tell, excepting that he thought one person placed his foot with a boot on, in the axilla. He was sent to the hospital, and on the next day was seen by the author, who found the left arm and shoulder much swollen. Leeches and cold applications were employed, and on the following day the swelling was so much reduced as to enable him to decide that no dislocation existed. During the night of the third day following, December 28th, the patient was seized with a violent fit of coughing, during which he felt something give way in his shoulder. The next morning the shoulder and arm were very much discoloured and enlarged, the arm was painful, and the patient much prostrated. On the 30th it was discovered that the man had no pulse in his left wrist, or in any part of the arm, and he had also lost both feeling and motion in the extremity. The swelling increased until it became enormous, the arm turning black in the axilla. A vesication was noticed on the back of the fore-arm. January 27th, 1844, an abscess was found to be forming in the axilla. In seven days it pointed, but did not open till February 4th, when it discharged a coagulum, and about a pint of fluid dark-coloured blood. Three days subsequently, at six o'clock in the morning, a sudden gush took place from the wound, by which the bed was inundated, the matresses soaked, and blood poured upon the floor. Exhausted and almost lifeless, he sunk into a state of syncope, and the hemorrhage ceased. As he was too low to undergo any operation, it was agreed that if he lived to the next day, the subclavian should, if possible, be tied. By the next morning he had much revived. At ten o'clock he took eighty drops of the tincture of opium, and at eleven was carried into the operating theatre.

A great difficulty presented itself in the outset of the operation, the swelling of the shoulder, the tumour in the axilla, and the natural shortness of the neck almost obliterating the space between the shoulder and lower jaw. The author, after minutely detailing the steps of the operation, states that the aneurism-needle was passed under the first dorsal nerve, which was mistaken for the artery. The wound was too deep, too narrow, and consequently too dark, to permit the artery to be visible. The anterior scalenus was partially visible, and, passing the fore-finger of the hand to the edge of this, a good portion of the muscle was divided by the probe-pointed bistoury, introduced upon the finger. The subclavian artery then became quite sensible to the touch, and slightly distinguishable by the eye. A long aneurism-needle was passed under the artery, and at this moment a slight whistling was heard, and the author was satisfied that some air had entered the thorax. The ligature was tied, and the wound closed.

The patient improved after the operation. On February 22d, the thirteenth day, the ligature was removed. On the 29th, a stream of blood was seen to issue from the unclosed part of the wound; the blood lost amounted to about a pint, did not issue per saltum, and was of a venous colour. The hemorrhage was arrested by pressure. At the commencement of March, he had an attack of pneumonia, confined to the lower lobe of the left lung, and also a second attack about the 1st of May. By the 1st of October, the swelling had disappeared from the arm, and motion had returned in the shoulder-joint. The large excavation in the axilla was reduced to a fistulous tube. On February 4th, three hundred and sixty-one days after the operation, the author was able for the first time to detect a distinct pulsation in the radial artery, and subsequently one of an indistinct character in the ulnar and brachial. The patient, June 15th, had nearly recovered. There were still fistulous openings in the neck and axilla. Sensation and motion were slowly improving.

The author remarks, that the cause of the rupture of the subclavian artery in this case is involved in some obscurity. The probability seems to be, that great violence was employed in the attempt to reduce the bone, and that the arteries and nerves were contused by strong pressure of the operator's boot, combined with the forcible extension of the arm. The vessel did not rupture immediately, because its coats were contused, and not torn asunder, but a separation of the contused parts took place, in consequence of the violent efforts of coughing on the

fifth day after the accident. The author, after noticing the occurrence of secondary hemorrhage twenty days after the operation, makes some extended observations on adhesion of the coats of the vessel within the ligature, on the formation of a plug of coagulum on the cardiac side of the ligature, and on the effusion of lymph external to the artery.—*Med. Times*, Dec. 6, 1845.

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Ligature of the Left Subclavian Artery within the Scalenus Muscle, for Aneurism. By J. Kearny Rodgers, M. D., Surgeon to New York Hospital. (*New York Journ. of Med.*, March, 1846.)—The subject of this very difficult and serious operation was a German, 42 years of age, admitted into the New York Hospital on the 13th Sept. 1845, with aneurism of the left subclavian artery. The patient stated that "'about four weeks ago, when carrying a basket of peaches (containing about a bushel) on his left shoulder, he was suddenly seized with a severe pain in the shoulder and arm, and was obliged to lay down the basket. On examining the part, he then, for the first time, observed a swelling above the clavicle, about the size of a pullet's egg. Since last winter, about February, he had suffered pain in the arm, and observed that it was occasionally swollen, but was not obliged to give up work.'

"On examination, a pulsating tumour can be seen above the left clavicle, about the size of a small hen's egg, rising beyond the bone about two inches; extending externally to the outer third of the clavicle, and internally, covered by the outer edge of the sterno-mastoid muscle. Pulsation was very distinct over the entire surface of the tumour. The cutaneous veins below the sternal end of the clavicle very much enlarged and their coats thickened. There were marks of cupping over the shoulder.

"The patient complains of severe pain in the axilla, extending down the arm to the finger ends. He cannot sleep, and his general health has suffered from the want of rest, being obliged to walk his room at night on account of the severe pain; the left arm and hand are swollen, so as to interfere with the flexion of the fingers. There was no perceptible difference in the pulse at the wrists. Its beat was 92, soft and full."

The treatment consisted of an anodyne at bed-time; this was followed by two bleedings, and a laxative, and afterwards digitalis was prescribed. Sept. 28th, the patient had been taking the last-named medicine without much benefit; the tumour was increasing in size; pain in the axilla very severe; he was again bled, and an opiate given at bed-time. At a consultation of the surgeons, it was left to Dr. Rodgers to decide whether the operation should be performed.

The tumour continued slowly and gradually to increase, and passed more under the mastoid muscle than on his admission, so as to give Dr. R. some apprehension of trouble from it in the operation.

The patient was apprised of the fatal nature of the disease, and the dangers of an operation, but his sufferings were so great that he expressed his willingness to undergo whatever operation afforded the least prospect of relief from pain, and of restoration to health.

Dr. R. decided on tying the subclavian artery, and the operation was performed on the 14th of October, at 1 P. M., in the presence of Drs. Mott and Stevens, consulting surgeons, of Drs. Cheesman, Post, Hoffman, Buck and Watson, surgeons, &c.

"The patient was laid on a low bed, with his head and shoulders raised, and his face turned to the right side. The light from the dome shone directly on the part to be operated on.

"An incision was made three inches and a half in length on the inner edge of the mastoid, terminating at the sternum, and dividing the integuments and platysma myoides. This was met by another extending along the sternal extremity of the clavicle, about two and a half inches. This last incision divided a plexus of varicose veins passing in the integuments, covering the clavicle to the subclavian. Free bleeding taking place from their cut and patulous extremities, it became necessary to check it by ligature.

"The flap of integuments and platysma myoides was now dissected up, and the lower end of the mastoid laid bare; a director was passed under this muscle, and the sternal portion and half of the clavicular divided by the bistoury. This muscle

was now turned up, and the sterno-hyoideus muscle, the omo-hyoideus, and the deep-seated jugular vein were seen covered by the fascia.

"On turning up the mastoid, a portion of the aneurismal sac strongly pulsating was brought into view, overlapping about half the width of the scalenus, forming now the outer part of the track through which I was to pass, showing fearfully one of the dangers of the operation, which, from my previous examinations of the part, I had of course anticipated.

"The fascia being divided by the handle of the scalpel and the fingers, I passed in contact with the deep jugular on its outer side to the inner edge of the scalenus anticus, intending, for the purpose of avoiding as much as possible all danger to the thoracic duct, to reach this muscle fully half an inch above the rib, rather than at its insertion. I now felt distinctly the phrenic nerve running down on the anterior surface of the scalenus, and was confident that I should be able to avoid any injury to it. Having attained the inner edge of the scalenus, by pressing downwards with the finger, I soon discovered the rib, and after some little search easily found the subclavian artery. By pressing it against the rib, all pulsation ceased in the tumour, and by removing the finger, pulsation returned.

"I now felt that great care was necessary to detach the artery, and avoid danger to the pleura and thoracic duct. In accomplishing this part of the operation, I at first tried Sir Philip Crampton's instrument, but ascertaining that I could better carry the ligature around the artery and bring up its end, by the invention of Drs. Parrish, Hewson, and Hartshorne, of Philadelphia (long since given to the profession by them, and lately claimed by Mr. L'Estrange of Dublin), I accordingly adopted that instrument.

"This part of the operation it will be imagined was not very readily accomplished. The great depth of the vessel (nearly the length of my forefinger), and narrowness of the wound, prevented a very easy management of instruments. The point was introduced under the artery, and soon directed upwards so as to avoid injury to the pleura. The needle carrying the ligature was now detached from the shaft of the instrument, and drawn upwards so as to include the artery. I readily tied the ligature, and tightened it with the forefingers in the bottom of the wound. All pulsation immediately ceased in the aneurism and the arteries of the extremity.

"The patient complained of no pain or unusual feeling in the head, as might have been expected from so suddenly changing the current of so large a quantity of blood.

"2 o'clock P. M.—Patient complains of chilliness; surface of the body cool to the touch: temperature of the left arm much below that of the right; pulse 115, small and feeble. Ordered warm brandy and water; bottles of warm water to the feet, and the left arm and shoulder to be enveloped in warm blankets. 5 P. M. Feels more comfortable; pulse 108, with some degree of fullness; temperature of the arm increased; complains of severe pain in the back and neck; is unable to lie down, and has his shoulders supported in a bed-chair. 10 P. M. Has slept two hours, and is now quite easy. Took of tinct. opii ʒi.

"2d day. *Oct. 15th.*—7 A. M. Passed a comfortable night and slept well; has less pain in his back; temperature of left arm higher than that of right, pulse 120, soft and full; has taken no nourishment; to take barley water as his drink. 3 P. M. Is very comfortable; has no pain in his back; complains of slight pain in his head and neck; is inclined to sleep. 11 P. M. Patient restless; complains of pain in the wound and neck. R. Solut. sulph. morph. (Magendie's) gtt. xxv.

"3d day. *Oct. 16th.*—7 A. M. Slept but little during the night; suffered severe pain in the neck and down the back; skin moist; temperature of both arms the same; pulse 112, soft and full; complains of thirst; tongue coated with a white fur; bowels not open since the operation; there is a slight erysipelatous redness at the edges of the wound. Ordered purgative enema; the inflamed part to be bathed with equal parts of spirits and water. 5 P. M. The patient refusing to allow the administration of an enema, a dose of castor oil was exhibited, which operated freely; expresses himself much relieved; has less pain in the neck; temperature of the left arm natural; skin rather dry; pulse 120, without much force; complains of thirst; erysipelas extending; the wash to be continued. R. Solut. sulph. morph. gtt. xxx., hora somni sumend."

4th day. *Oct.* 17*th.*—6 A. M. Passed a good night, is free from pain; skin warm and moist; pulse 98, soft and full. Diet: milk toast for breakfast, chicken broth for dinner. Continue the wash. 5 P. M. Erysipelas extending downward; has slight pain in the wound; pulse 120, soft and regular; temperature of the left arm same as that of the body; skin dry; v. s. ad ℥x. solut sulph. morph. gtt. xxv., hora somni.

5th day. *Oct.* 18*th.*—7 A. M. Passed a comfortable night; slept well; has no pain; general symptoms much improved: pulse 108 and soft, but not full; erysipelas fading; wound suppurating at the angle; diet as yesterday; continue wash.

6th day. *Oct.* 19*th.*—6 A. M. Passed a restless night; was slightly delirious, but is more quiet this morning; pulse 120, quick and feeble; tongue coated; skin dry; complains of dryness of throat; erysipelas diminishing; wound suppurating; its sutures were removed; was allowed lemonade as a drink; diet as before; poultice to the wound. 5 P. M. Patient more comfortable; skin moist; pulse 118, with more volume; less thirst; poultice to be continued.

7th day. *Oct.* 20*th.*—6 A. M. Passed a comfortable night; is free from pain; temperature of arms the same.

8th day. *Oct.* 21*st.*—Is quiet and easy; no erysipelatous appearance, except on the edges of the wound; pulse 108, irregular in force, but not in frequency; tongue clean; appetite good. Allowed boiled chicken for dinner.

9th day. *Oct.* 22*d.*—Continues to improve; erysipelas subsided entirely.

10th day. *Oct.* 23*d.*—6 A. M. Passed a good night, with the exception of an occasional inclination to cough; pulse 120, and regular, but without much force; skin dry; countenance slightly flushed; complains of thirst; has flashes of light before his eyes; pupil of left contracted; is without pain in the head; wound suppurating freely; drink, barley water; h. pulv. Dov., gr. x.

11th day. *Oct.* 24*th.*—7 A. M. Slept well last night; was not disturbed by the cough; tumour diminishing; appetite good. 5 P. M. The recumbent position is very irksome, and it is difficult to keep him in bed, from which he has frequently risen. Feels very well. The contraction of left pupil still continues, and there is slight ptosis of left eyelid; has an occasional burning sensation in the left arm which is relieved by pressure on the elbow.

12th day. *Oct.* 25*th.*—Wound was dressed this morning with adhesive plaster and dry lint; has occasional pain over the left eye; ptosis and contraction of pupil continue; pulse 92, soft and full; skin moist; no pain in left arm.

"13th day. *Oct.* 26*th.*—2 A. M. The patient, on changing his position from the right side to his back, felt a trickling down his chest of what he supposed was matter, but which the nurse ascertained to be blood. The house surgeon was immediately called, and controlled the hemorrhage by filling the wound with layers of a dry hard sponge, placing a compress over this, and securing the whole by a bandage. About twenty ounces of blood were lost. 9 A. M. There has been no bleeding since 2 o'clock. The patient has a sensation of faintness, and is alarmed at his situation. Pulse 128, small and feeble; skin dry and cool; countenance pale and anxious; ptosis and irregular contraction of the left pupil still continue, but the pain in the head has subsided; has an inclination to sleep, but the fear of bleeding prevents its indulgence. Has taken a small quantity of milk, and desires more solid food; thirst not very great. Ordered oyster soup. 12 o'clock, M. After patient had been raised for the purpose of drinking, the hemorrhage again occurred. On removing the bandage and compresses, which were saturated with blood, the hemorrhage continued in distinct jets from the sponge—another piece was placed over the whole, and firm pressure ordered to be kept up by assistants, which controlled the bleeding. The ligature still remains in the wound. 5 P. M. There has been no recurrence of hemorrhage; reaction has taken place; pulse 140, sharp and quick; skin hot and dry; countenance flushed and anxious; has pain in the forehead; complains of great thirst; drinks freely of cold water; pressure continued.

"14th day. *Oct* 27*th.*—6 A. M. There has been no bleeding during the night; pressure has been firmly made over the wound; the blood has passed under the integuments of the neck in so great a quantity that there is a decided bulging of the skin on the left side, extending to the back of the shoulder; pulse 140 and very feeble; skin clammy; countenance pale and anxious; right pupil very much

dilated, left contracted; ptosis of left increased; complains of pain in swallowing; thirst very great; has taken very little nourishment; ordered chicken soup.

"15th day. *Oct. 28th.*—6 A. M. Patient has been very restless during the night, but slept at intervals; complains of the pain caused by pressure on the wound; has occasionally drunk lemonade; during the night there was some disposition to cough, which was twice followed by oozing; pulse 142, and very feeble; countenance of a livid hue; right pupil very much dilated; ptosis and contraction of left pupil continue; swelling on side and back of the neck very prominent; skin cold and clammy; mouth parched, is unable to swallow anything but cold water. On removing the outer sponge there is a firm clot seen which for a time controls the bleeding, but the least effort causes a fresh gush of blood; gentle pressure to be continued. 1 P. M. The clot beneath the integuments causes so much pressure on the œsophagus as nearly to prevent deglutition; the tendency to external hemorrhage is less, and the external clot firm; there is danger that the blood effused may press on the larynx sufficiently to prevent respiration, and the pressure was accordingly discontinued; oozing continues. 5 P. M. Patient dying; no external hemorrhage. 5¼. Died.

"*Post-mortem examination, eighteen hours after death.*—The wound was filled with coagula and sponge, which had been introduced for the purpose of making pressure. The blood is already in a state of partial decomposition. The dissection was carefully performed, exposing the different layers of muscles. The lower incisions made at the operation were found to include three-fourths of the mastoid, leaving a small portion of the clavicular portion undivided. Below this the aneurismal sac and the scalenus anticus formed the outer and posterior wall of the wound. The inner wall was formed of condensed cellular tissue covering the carotid artery, jugular vein, thoracic duct, and the edges of the thyroid muscle. At the bottom was the subclavian artery, completely divided by the ligature, which was found free in the coagula. The cellular tissue of all the parts around the wound was condensed by adhesive inflammation, rendering the dissection exceedingly tedious and difficult. The jugular vein, which skirted the inner wall of the wound, was obliterated and filled with fibrinous coagula. Opposite the track of the ligature the vein was contracted to a cord, and impervious as far as its junction with the subclavian. The vena innominata and subclavian were normal. The pleura at the bottom of the wound presented a large irregular lacerated opening, communicating from the wound with the left pleural cavity, which was filled with coagulated blood. This formed one large uniform coagulum, and had every appearance of being of rapid and recent formation; the membrane around these was thickened. On exposing and tracing the subclavian artery, it was found that the ligature had been applied about one and a quarter inches from its origin at the aorta, and immediately at the root of the vertebral, on its cardiac side. The artery had been completely divided by the ligature, which as mentioned above was found loose in the wound. The stump of the subclavian, between the aorta and ligature, presented the appearance of a round solid cord, about an inch and a quarter long, and impervious to liquids or air. The external coat of the stump was thickened and adherent near the ligature to the surrounding tissues, by adhesive inflammation. On laying open the vessel longitudinally it was found that a firm fibrinous coagulum occupied the vessel, and was adherent firmly to its inner coat for three-quarters of an inch; near the aorta, the coagulum was softer. The coats of the vessel were moderately thickened, and presenting a small patch of atheromatous deposit about the third of an inch from the tied end. Around this deposit the adhesion seemed as perfect as at any other part. Beyond, the ligature presented a different appearance. No plug other than a soft coagulum of blood occupied its cavity, and it presented much less evidence of adhesive inflammatory process in its coats. The vertebral was given off immediately at the point of ligature, and was open, containing a thin blood coagulum like the one in the subclavian. These were drawn out with ease, and evidently had formed during the last moments of life. About one-third of an inch from the vertebral came off the thyroid axis, and nearly opposite the vertebral was the internal mammary. These vessels were all patulous and healthy. About half an inch from the thyroid axis commenced the dilatation of the artery to form the aneurismal sac. This tumour was about the size of a small orange, and had involved in its growth part of the scale-

nus anticus, the cervical nerves going to form the cervical plexus, the surrounding cellular tissue, and the glands. The aneurism was completely blocked up with coagula, and the axillary artery which emerged from its distal side was plugged with a fibrinous clot exactly similar to the one in the stump of the subclavian, though perhaps not so perfect. It appeared sufficiently so, however, to obliterate entirely the calibre of the vessel. The plug extended some distance down the axillary artery. The thoracic duct, which had been injected with wax from the abdomen, was found uninjured. The aorta was thickened, and its coats irregular from a considerable deposit of atheromatous matter in its tissues. The heart was somewhat larger than natural, but apparently sound. The other organs were not examined, as the friends insisted on an early removal of the body for burial."

British authors being of opinion that the ligature of the subclavian on the left side was impracticable, Dr. Rodgers, previous to this operation, examined, with great care, the surgical anatomy of the vessel. He had the thoracic duct injected with wax and repeatedly dissected the parts concerned, and operated in every way that suggested itself to him as likely to present any advantages. His opinion of its feasibility was thus confirmed, and having never entertained any doubts of its propriety he accordingly undertook it.

"Previously to the performance of this operation," Dr. R. says, "many entertained doubts whether the force of the circulation so near the heart in so large a vessel would not prevent the formation of a coagulum, and of course interfere with the obliteration of the vessel.

"These doubts have now been removed, and I consider that all reasonable objections fall with them, except those arising from the anatomy.

"Danger to the thoracic duct and pleura, are in my opinion the most serious of these, for, with ordinary coolness and care, there will be little danger of including the pneumogastric and phrenic nerves, or carotid artery in the ligature. The veins may be lacerated by great roughness, but can scarcely be included.

"The thoracic duct, I think, can almost always be avoided by reaching the inner edge of the scalenus half or three-quarters of an inch above its insertion, and then pressing the finger down towards the rib. The duct is thus kept out of the way of laceration by the finger, and afterwards by the aneurismal needle. I am aware that this duct varies in its course, but this direction I am confident will usually secure its safety. By adopting it in the many times I operated and dissected the parts in the dead body, it was uninjured.

"The artery lies in contact with the pleura, the laceration of which might be attended with very distressing and dangerous consequences. A careful introduction of the aneurismal needle, and soon turning up its point will usually secure the safety of this membrane. In none of my operations on the dead body, where it was performed in this way, was it injured.

"The hemorrhage in this case came from the distal end of the artery, and the very free and direct anastomosis of the internal carotid at the base of the brain with the vertebral, induce me to think that it was the latter vessel which transmitted the blood. Some indeed may have come through the thyroid axis, but I consider the former mode more direct."

Should this operation be repeated, Dr. R. suggests the securing of the vertebral, and, if possible, the thyroid axis, by ligature.

Lithotomy and Lithotrity. By J. M. Bush, M. D., Professor of Anatomy in the Medical Department of Transylvania University. (*Western Lancet*, Jan. 1846.)—In our number for Feb. 1838, p. 535, et seq., we noticed a paper by Dr. Bush, in which was detailed the operative process followed by Prof. Dudley of Lexington, in Lithotomy, with a statement of the extraordinary success which has attended his operations. The object of the present paper is to further illustrate this subject.

Dr. B. states, that since the publication of his previous paper he has been Prof. Dudley's assistant in 32 additional operations for stone, which extends the whole number, at this period, to 185; of which number 180 have been successful.

Dr. B. repudiates the explanation which has been offered of the Professor's success, that he is "extremely cautious in his choice of cases."

"The American Lithotomist," he says, "has had presented to him 188 subjects, 185 of whom have been operated upon; two did not obtain the use of his knife,

because both, when reaching Lexington, had already felt the wearing-out influences of large calculi to such a degree, that they survived but a few days. One at the time was undergoing preparation for the operation. Here, then, is a large number of calculous patients, of all ages, and both sexes, coming to Prof. Dudley from every quarter of the widely extended range of the Mississippi valley; and I have seen patients who were in this list, the subjects of such intense agony, with purulent and sanguineous discharges from the bladder, indicating, without any reasonable doubt, the extensively ulcerated state of that organ, so far relieved by the medical treatment, with a view to the operation, that they were almost willing to return home without this unconditional and final remedy."

The Professor's success, Dr. B. maintains, "depends chiefly upon the principle,—which he more extensively recognizes than any surgeon living or dead, with whose history I have an acquaintance,—of the *thorough preparation of the general system preparatory to the operation;* an account of which is detailed in my former paper on Lithotomy."

Dr. Bush observes that there "must exist some more than ordinary circumstance, to afford a satisfactory explanation of this vast difference and altogether unprecedented success. Sir Astley Cooper, Martineau, Liston, Lisfranc, Velpeau, and Dudley, all divide the same parts in opening the bladder, whether the knife, bistouri caché, or gorget, be the instruments selected, all operating probably with equal dexterity and skill. The reasons, therefore, for the difference cannot be found in the mode of doing the operation. Children, adults, and old subjects, no doubt, have all equally formed the classes of subjects submitted to the different operators; and hence, the classes of patients do not explain the remarkable disparity.

"It is conceded by all surgeons, that children are the most fortunate of all subjects in the successful issue of lithotomy; and in my humble opinion, there is a satisfactory reason for this result. Although in the practice which has been the principle field of my observations, the proportion of children bears but a comparatively small ratio to the number of adults; yet, I am prepared to state, that children are, to make the rule general, much more free of those causes to be found in the state of the general system, that tend more or less in all calculous cases, to hazard the life of the subject, if he submit to the operation previous to the removal of such causes. Why this is the case in the child, as a rule that I am prepared to recognize as general, the brevity of this paper will not allow to be discussed. Certainly Professor Dudley's success, like that of all masters in surgery, has been greater among children, than the other two classes of adults and old men, never having lost a single child, or youth, upon whom he has made the operation; the very limited number failing to enjoy a successful issue, being from the latter classes of subjects.

"The only two patients, whom I have cut, one an old gentleman, seventy-two years of age, the other a boy of only ten, recovered with equal facility, considering the reactive energies appropriate to the different periods of life. In the latter case, I had scarcely any duties to perform, as my patient's physician, in the way of medical or dietetic treatment; the evidences of a favourable condition of the general system were so manifest and unequivocal, in the healthy appearances of the tongue, skin, and abdominal secretions. In the other, something more was required; although this patient had lived over his three score and ten, observing, during this long life, more than ordinary prudence, in all his habits, and was thus rendered a more suitable subject for a successful operation, than another of the same age but of opposite habits. I cannot entertain a reasonable question, however, that he would most likely not have recovered, had the means intended to correct some disordered functions been withheld. The continued presence of a stone in the bladder must, more or less, invade the sound condition of that organ, under almost all circumstances; and as we are, at all times, liable to derangements of the digestive apparatus, either acute or chronic, those who suffer such affections during the presence of stone, will not to a demonstrated certainty, escape the influences of the general law, that the weaker parts are more apt to contract local disorders, originating in constitutional causes.

"Calculous patients have, in too many instances for the safety of human life, and the glory of operative surgery, a general cause of a fatal tendency, aggravating

the effects of operations and the local disease. I say a fatal cause, because I do not hesitate to venture the opinion, that a deranged state of those organs, composing that abdominal group called the chylopoietic, and their assistants, are the causes of the frightful mortality of lithotomy, where the operation is made by the hands of a skillful surgeon.

"The influence of the state of the general system in the production of local diseases; and the treatment of local disorders, by constitutional remedies, so well understood by Abernethy, and taught in his public lectures and writings, a half century ago, as a principle does not appear to have been acknowledged and extended into the surgical department of the profession, so generally as its high claims to rational philosophy seem to me to merit. If local diseases, depending upon constitutional causes, are not to be overcome by local treatment; if cancer, and all those terrific maladies kindred to it in malignancy, are in most instances only to be aggravated by the interference of the knife, which too often invites their concentration to some more vital part; why is not the law, which grows out of the preceding facts, more universally recognized by the surgeon, and made subservient to the success of his art. A patient with stone in the bladder may be sounded, and the exploration detect no very striking evidences of a morbid condition of the organ, while his urine may evince a sound state of the kidneys; all the urinary apparatus appearing very favourable to a speedy operation; but if the digestive apparatus should be performing its functions in a manner not subserving the healthy purposes of the economy, and he be cut under such circumstances, the issue, to say no more, will most likely be very doubtful. The shock to the nervous system, of an operation so extensive, will very speedily excite such a commotion, as to endanger by its reaction upon an organ, thus prostrated, a state of inflammation, most probably, to terminate in the loss of the case. On the other hand, the calculous subject, who, in addition to the disordered condition of his chylopoietic viscera, has felt these constitutional causes aggravating his local complaint, in the shape of hemorrhages, mucous and purulent discharges, together with extensive ulcerations of the vesical tunics, will be rendered far more hazardous, in submitting, without preparatory means, to the operation.

"That these preparatory means, with a view of rendering the abdominal organs healthy in their functions, will also exercise a healthy influence upon the state of the bladder, is a law as true as that local disorder is a consequence of general causes. The unprecedented success of lithotomy in Lexington, is alone to be ascribed to the very extended recognition of the principle I have so briefly, and too feebly, attempted to explain; and when its influence, and paramount importance shall be universally admitted and practiced, lithotomy will lose most of its dreaded features, and human life will be rendered as safe in the operation of lithotomy, as it is now in hydrocele."

Ovarian Cyst ruptured by a fall—effusion of its contents into the Peritoneal cavity; absorption; permanent Cure.—By James P. White, M. D. (*Buffalo Medical Journal*, Dec. 1845.) The subject of this case was a widow lady, aged 43, who discovered during pregnancy, nearly 15 years since, a tumour in the left side about the size of an egg. She was safely delivered of a healthy child at the usual period, and has since given birth to three vigorous children, the youngest being now eight years old. The husband died before the birth of the last child. After the last confinement the tumour increased with considerable rapidity, and gave rise to much uneasiness. She had several attacks of what her physicians called inflammation of the bowels, and was treated by bleeding, blistering, cathartics, &c. The tumour has been during the last few years seen by Drs. Colgrove, B. Burwell, Bissel, Congar, and others, most, or all of whom diagnosed ovarian disease, and did not predict a favourable termination. Dr. White incidentally saw and examined the patient last summer, and found the left ovary larger than the head of a full-grown fœtus, extending quite across the umbilical, into the right iliac region.

"In February last, on making a sudden effort on an icy stone step, she slipped and fell with her whole weight upon the abdominal tumour. The shock was so severe as to produce prostration and syncope, and a messenger was dispatched for Dr. W. After administering a cordial, Dr. White made an examination, and found

the circumscribed character of the tumour entirely lost. There was a general fluctuation of the whole abdomen, and the peritoneum seemed the receptacle of a fluid escaped from the ruptured sac. The injury was followed by severe peritonitis, which yielded to bleeding, general and topical, with the usual adjuvants. The patient passed more than the usual quantity of high-coloured urine, and vomited frequently throughout her illness. After a gradual convalescence she seems now entirely restored, and in better health than she has enjoyed for several years. The strictest examination did not enable Dr. White to detect the least vestige of the old tumour in the ovarian region. The menses have been, and are now regularly secreted, the respiration is full and complete, and she can lay upon either side without difficulty, which she has been unable to do until recently.

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Inversion of the Uterus—replacement. By E. Fisher, M.D., of Waynesville, Ohio.—On the 26th Sept. 1835, at ten o'clock, A. M., I was called to Mrs. D—— in labour. She was about thirty-five years of age, and had given birth to several children—said that two weeks previously, in attending the funeral of a relative, she rode several miles in a farm-wagon over rough roads, which excited pain in the loins and hips, and weakness of the inferior extremities, attended with difficulty of locomotion; all of which continued up to the morning of the 26th.

From the day of the funeral she had felt no motion of the fœtus, and to use her language, was "eight months gone in pregnancy." The pains were slight, irregular, and transient. Upon examination I found the pelvis unusually large, the os uteri well dilated, and the membranes protruding. The temperature of the skin was natural, pulse regular, and bowels open.

As I conceived there was but little to fear, I deemed it prudent to give nature time to effect her purpose. Ten grains of pulvis Doveri were administered, which procured an hour's repose. The pains then returned, but continued feeble an hour longer, without any appreciable change, when suddenly a violent throe, thrust fœtus, placenta, and body of the uterus beyond the labia externa.

The fœtus was very small and putrid; the funis umbilicalis, as nearly as I could estimate it, (not having any means of measurement,) was eight inches in length. The placenta was detached, and a complete inversion of the uterus had taken place. I was shocked for a moment with the condition of my patient, but knowing there was no time to be lost, I immediately commenced an attempt to return the uterus. I passed the index of the right hand into the vagina, then carried it round the tumour, till I became fully satisfied as to the condition of the parts. The os uteri looked into the pelvic cavity, and the finger could not be brought into contact with it.

The uterus was as flaccid as a wet bladder; a circumstance which inspired a ray of hope that something might be done to relieve the patient from a situation but little more desirable than death. I placed the fingers of my right hand against the fundus of the uterus, pressing it gently upwards in the direction of the axis of the inferior strait, while the left hand was placed over the hypogastric region to prevent the uterus from rising into the abdomen. I carried my right hand up the vagina a sufficient extent to enable me to return the uterus, which was done with less difficulty than could have been anticipated. Not the slightest contraction of either the fundus, body, or neck of the organ took place during the operation. I made an attempt to withdraw my hand, and the fundus followed it. And notwithstanding frictions were made over the hypogastrium with the left hand, while the knuckles of the right were caused to press against the fundus of the organ within, the uterus still remained flaccid, and during some minutes manifested no disposition to contract. I ordered ʒj of secale cornutum infused in six ounces of water, two ounces of which were to be given every ten minutes; the third portion produced contractions, and by grasping the fundus between the thumb and fingers of the left hand, through the walls of the abdomen, in less than fifteen minutes the contractions became so violent that my hand was forced out into the vagina. No further difficulty ensued. The hemorrhage was less than in an ordinary case of labour at the full period of utero-gestation, and neither pain nor syncope occurred prior to or during the reversion of the organ.—*The Illinois Med. and Surg. Journ.*, Dec. 1845.

Statistics of Amputation.—Dr. Thos. F. Betton, of Germantown, gives (*Medical Examiner*, Feb. 1846), the following table of cases of amputation in his private practice from June 1833, to Jan. 1846.

No	Name.	Age.	Sex.	Cause of Removal.	Where Removed.	Result.
1	F. G.	22	Male.	Fungus Hæmatodes.	Thigh.	Recovered.
2	W. H.	35	Male.	Compound fracture, caused by machinery,	Forearm.	Recovered.
3	A. W.	12	Male Black	Fungus Hæmatodes.	Thigh.	Recovered.
4	H. S.	50	Male.	Scrofulous disease of Ankle-joint.	Leg.	Recovered.
5	M. B.	13	Female.	Lacerated by a machine for tearing flax.	Arm.	Recovered.
6	E. S.	32	Female.	Scrofulous disease of ankle-joint.	Leg.	Recovered.
7	W. B.	50	Male.	Gangrene.	Thigh.	Died.
8	A. W.	18	Female.	Necrosis.	Leg.	Recovered.
9	R. L.	12	Male	Gunshot wound of Hand.	Forearm.	Recovered.
10	N. B.	33	Male.	Compound fracture from Rocks in a Quarry.	Forearm.	Recovered.
11	J. H.	35	Male.	Compound fracture from premature explosion of a blast.	Forearm.	Recovered.
12	J. K.	42	Female.	Scrofulous disease of leg of many years.	Thigh.	Recovered.
13	P. L.	30	Male.	Compound fracture by a Rock of ½ ton weight falling on the foot.	Leg.	Recovered.
14	J. C.	18	Male.	Hand torn in a cotton carding machine.	Forearm.	Recovered.
15	B. M.	30	Male.	Mashed by a Locomotive Engine.	Both Legs.	Recovered.

Remarks.—"The only case possessing much interest is No. 15, in which both legs were removed. The man had been thrown down on the railroad by the locomotive, which passed over his legs diagonally, tearing them most horribly, and splintering the bones nearly to the knee-joint. He received, in addition, a severe concussion of the brain; and at the time of the operation was totally unconscious of everything around him—nor did he, for a week subsequently, know that his limbs had been injured. He was, fortunately, a man of strictly temperate habits, which, added to a good constitution, no doubt secured his recovery. A recovery from amputation of both legs, for a recent accident, especially so severe as that produced by a locomotive, is, I believe, uncommon."

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Case of Aneurismal Varix cured by Compression. By Wm. Desprez, M. R. C. S. (*New Orleans Med. and Surg. Journ.*)—So few cases of cure of false aneurism at the bend of the arm by compression, have been recorded, except when this means was resorted to immediately after the accident, that the following, related by Mr. Desprez, of Franklin Co., Alabama, will be read with interest.

The subject of this case was a young lady 17 years of age, of spare habit and nervous temperament, in whom the aneurism resulted from a wound in the artery, in venesection. When Mr. D. saw her, July 24th, three weeks after the accident he found a pulsating tumour, about the size of a hickory-nut, at the bend of the arm; pulsation, synchronous with that of the radial artery, considerably diminished by applying pressure on the brachial artery, but enlarging again as soon as it was removed. On examining the cicatrix, which was very small, he found that the

operator had missed the vein and cut into the artery. The stethoscope gave the "*bruit de soufflet*" very distinctly. She had occasional shooting pains along the course of the ulnar nerve, particularly attending the least motion, which was consequently very limited. As she and her friends dreaded the operation so much, Mr. D. was induced to try what pressure would do. He commenced by applying a bandage on each finger; after which he put on a roller bandage, and applied graduated compresses over the tumour, and along the course of the artery, gave her tinct. digitalis gutt. x quarta q. q. hora; recommended rest and low diet, and to keep the arm in the horizontal position.

In the early part of Sept., the tumour being but little reduced in size, he determined to adopt the mode of pressure employed by Mr. Bellingham in popliteal aneurism. Accordingly he got two *presse-arteres*, made much on the principle recommended by him, and applied them on the 17th of September; but considered that as the compress on the tumour and the bandages did not give any annoyance, he would leave them on, and thereby make assurances doubly sure. On the 25th, he had the satisfaction of seeing the tumour somewhat smaller. The patient continued to improve slowly, but perceptibly, and about the 15th inst. she found her arm so well that she took off all the "fixings," as she called them. Since then the arm, which in consequence of the long pressure kept up, was smaller than the other, has nearly recovered its normal size and strength. On Mr. D.'s last visit, the 18th Dec., he could perceive no remains of the tumour; the artery seems pervious along its course; the cicatrix is nearly ¼th inch to the inner side of the vein, obviously showing the sad mistake the operator made in bleeding.

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Velpeau's New Caustic.—In our preceding No., p. 203, we gave an account of a caustic formed by a mixture of saffron and sulphuric acid, a combination, the merit of which M. Velpeau has taken to himself. Our friend, Prof. Geddings, of Charleston, in a note in the *Southern Journ. of Med. and Pharm.* (March. 1846,) states that "this *caustic of Velpeau*, was many years ago strongly recommended by the late distinguished Prof. Joh. Nep. Rust, of Berlin,—first, it is believed, in his Magazin der Chirurg. und Hielkunde, bd. iv., and more recently in his Theoret. Praktisches Handbuch der Chirurgie, article Acidum Sulphuricum, Erster Band. p. 274, Berlin, 1830. In this latter article the combination of saffron with sulphuric acid is particularly recommended in the proportion of from four to six grains of the former with one drachm of the latter, as an effectual application to morbid growths, in the mouth and about the neck—for the destruction of degenerations succeeding the operation for ranula, osteo-steatoma of the lower jaw, &c. The paste, formed by the union of the two ingredients, is applied to the diseased part by means of a pencil, and owing to the consistence imparted by the saffron to the acid, its action is confined to proper limits.

"Again, in the article *Caustica*, in the Encyclopädesches Wörterbuch der Medicinisch, Wissenchaften, Band vii., p. 301, Berlin, 1831, furnished by Professor Seifert, of Greifswald, we find the following expressions in relation to the same caustic: 'These unpleasant consequences (viz., the too wide diffusion of the sulphuric acid), may be in part obviated by combining the sulphuric acid with *crocus*, (saffron,) as recommended by Rust—by means of which a degree of consistence is imparted, which prevents its too extensive influence. Applied in this state, by means of a camel's hair pencil, it acts with great efficacy, and with but little pain, in the removal of polypi, ordinary warts, and other morbid products.'

"In the Handwörterbuch der Gesamnt-Chirurgie und Augenheilkunde, edited by Walther, Jäger and Radiuz, we again meet with the famous *Caustic of Velpeau*. In Band i., p. 55, Leipzig, 1836, the following remark occurs, 'Rust recommends, with the view of limiting the action of the sulphuric acid to the part to be destroyed, to combine it with saffron, in the following proportions: ℞. croci orientalis gr. vi.; acidi sulphurici ʒi.; m. s., to be applied to the diseased part with a camel's hair pencil.'

"It will be seen from these remarks, how far we are indebted to the '*investigations*' of M. Velpeau, for supplying us with a new potential caustic."

Foreign Body retained in a Bronchus for sixty years.—Mr. BARTLETT reports in the *New York Journal of Med.*, (Jan. 1846,) a case which occurred in the practice of Dr. L. Ticknor, of Salisbury, Conn., in which a fragment of bone was accidentally swallowed, and lodged in the bronchial passage, where it remained for sixty years, when it was expelled by coughing. During all this time he suffered from cough, with at periods expectoration of pus, with blood, &c.

National Medical Convention.—We with pleasure comply with the wishes of the New York State Medical Society, as conveyed to us through Dr. N. S. Davis, for the publication in this Journal of the Report of the Committee of that body, on the proposed National Medical Convention. The Medical Colleges and Societies of Philadelphia will not, we learn, be represented in this Convention. That this should be the case we cannot but regret. For though we are willing to admit that the considerations which have governed those institutions may be weighty, and must confess even our own fears, that the labours of the convention will prove abortive, exceed our hopes to the contrary, still the objects for which the convention is called, are so important, as to make it desirable that the whole force of professional influence should be concentrated on the effort to secure, if it be possible, their attainment.

"The Committee appointed at the last Annual Meeting of the New York State Medical Society, to carry into effect a resolution passed at the same meeting inviting a National Medical Convention, in May next, would respectfully report as follows:—

"In the early part of last season the Committee, through their chairman, addressed a circular containing the preamble and resolutions of this society, with such comments as were deemed advisable, to all the State medical societies and medical colleges in the United States, as far as the existence of such societies and colleges could be ascertained. And in those States where neither State societies nor colleges existed, a circular was addressed to some leading member of the profession, inviting him to take measures for having his State represented in the proposed convention. Replies to these circulars and letters have been received from the following officers of medical societies, and colleges and private members of the profession, viz., Drs. W. W. Morris, of Dover, Delaware State: A. H. Buchanan, of Tennessee; W. P. Johnston, of Washington city; T. T. Hewson, R. M. Huston, and W. E. Thorne, of Philadelphia; Luther Ticknor, Connecticut; W. H. McKee, of North Carolina; E. H. Pearle, of Hanover; Paul F. Eve, of Georgia; J. H. Thompson, of New Jersey; J. W. Davis, of Indiana; A. Twitchell, of New Hampshire; John W. Draper, A. H. Stevens, Willard Parker, and C. A. Lee, of New York; J. Drake, of Ohio; Lawson, of Kentucky, and Carpenter, of Louisiana. And delegates have been freely pledged from societies and colleges in Maine, New Hampshire, Connecticut, New Jersey, Delaware, District of Columbia, South Carolina, Georgia, Mississippi, Louisiana, Tennessee, Kentucky, Ohio, Indiana, and New York. The medical schools of Philadelphia are the only ones from whom replies have been received, that decline sending delegates, and giving a hearty support to the proposed measure. Nearly every medical journal throughout the whole Union has not only favourably noticed, but warmly commended the holding of such a convention.

"There are some institutions from whom no replies have been received; but, from information obtained from other sources, there is good reason for believing that most if not all these will appoint delegates as soon as they are fully assured that the convention *will* be held. It will thus be seen that in far the larger part of our Union, the invitation of this society has met with a prompt and hearty response from the profession; and it is with much regret that we find even a few institutions declining to take any part in so important a movement. But when we consider the wide extent of our territory, and the great number of our institutions, all engaged, we should hope, in a generous rivalry with each other, the expression in favour of a convention is certainly more unanimous and more promising of good than could have been anticipated. Indeed the leading and influential members of the medical profession have long felt the necessity of some national action; some central point of influence around which the active and choice spirits of the whole profession can rally, and from which may be made

to radiate an elevating, healthful, and nationalizing influence over the whole country.

"Hence, it only remains for this society to carry out the work it has so nobly commenced. The faculty in the New York University have very generously tendered to this society, the use of any room or rooms in their college edifice, that may be desired, for the convention to meet in. Some State societies and colleges have already appointed their delegates, while others have expressed a desire that the society would fix the number of delegates to be appointed by each society and college. For the purpose of furthering the objects in view, your committee would respectfully submit the following resolutions, viz:—

"1st. *Resolved*, That the preamble and resolutions passed by this society, at its annual session, Feb. 6th, 1845, did not contemplate the appointment of delegates to the National Convention, by county or merely local societies, in those States where delegates *are* appointed by a regularly organized *State* society.

"2d. *Resolved*, That as some societies and colleges have already appointed their delegates, therefore, the number to be appointed by any one of these institutions should be left entirely to the discretion of the appointing body.

"3d. *Resolved*, That sixteen delegates be appointed to represent this society in the proposed National Convention, viz., two from each senatorial district in the State.

"4th. *Resolved*, That this society accept the offer of the faculty in the New York University, respecting their rooms; and consequently that the members of said National Convention are invited to assemble in the college edifice of New York University, at 10 o'clock, A. M., on the *first Tuesday* in May next.

"5th. *Resolved*, That a committee of three be appointed to continue the efforts to further the objects of the proposed convention; and to exert all their influence to make it truly *National* in composition and action.

"6th. *Resolved*, That the above committee be authorized to invite the superintendents of lunatic asylums in the several States to attend the Convention.

"7th. *Resolved*, That the committee be further authorized and enjoined to send a copy of this report, together with the action of this society thereon, to all the medical journals in the United States, with a request that they publish the same, on or before the 1st of April next.

"W. S. Davis,
James McNaughton, } Committee.
Peter Van Buren,

"*Albany, Feb.* 3, 1846.

"The above report and resolutions were unanimously adopted by the society. The same committee of three was re-appointed in answer to the 5th resolution. Two delegates were also appointed from each senatorial district in obedience to resolution 3d.

"W. S. Davis,
Chairman of Committee."

"I. Hays, M. D."

New Works in Press.—Messrs. Lea and Blanchard have, we learn, in press, and will shortly publish a new work on Physiology, by Dr. Carpenter; a Manual of Materia Medica and Therapeutics, by Prof. Royle of King's College; and Practical Surgery, by Prof Miller. The two first named works have numerous illustrations executed in the most exquisite manner.

The same publishers will also issue, during the summer, a Manual of Ophthalmic Surgery and Diseases of the Eye, by Wharton Jones, Esq.

The very complete and valuable Surgery of Prof. Chelius, is advancing rapidly to completion. The ninth number of it is now ready.

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